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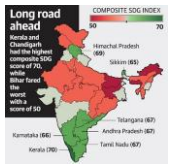
Sustainable Development Goals: Initiatives, Execution and Challenges



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On

Sustainable Development Goals: Initiatives, Execution and Challenges

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CONTENTS

A Cross-Sectional Study on Immunization Status of Children Aged 12-23 Months in Karnataka

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Abstract

Over the past few decades important advances have been made in reducing infant and under five mortality due to vaccine preventable diseases. Universal immunization programme has been contributing significantly to the reduction of Infant, neonatal and under five mortality associated with vaccine-preventable diseases. This downward trend has been observed for neonatal and under-five mortality but in the context of Sustainable Development Goals (SDGs) it should be reduced neonatal mortality rate to 12 or less per 1000 live births and under five mortality rate to 25 or less per 1000 live births. Aim of the study was to assess immunization status of children in Karnataka and impact of immunization programme on child health. The study is based on secondary data collected from various sources like NFHS, DLHS, Sample registration system, Rapid survey on children etc. Immunization status was measured as per national immunization schedule. All basic vaccination consist of one dose BCG vaccine, three doses of DPT/Pentavalent vaccine, three doses of polio vaccine, and one dose of the measles vaccine. Overall, coverage of immunization was at appreciation level in Karnataka. Good coverage has been established for BCG, OPV, DPT and 1st dose Measles vaccination but 2nd dose measles vaccine missed due to lack of awareness about the newer vaccine. Coverage of 2nd dose of measles vaccine can be improved by effective community mobilization by ASHA and Anganwadi workers.

Keywords: *Child health, Immunization, Vaccine, Mortality, Morbidity.*

Introduction:

Immunization played a major role in reducing childhood mortality and morbidity worldwide. It is one of the most important and cost effective measure for the prevention of childhood sicknesses and disabilities, thus it is a basic need for all children. India afforded free vaccines against 11 life threatening diseases (Tuberculosis, Diphtheria, Pertussis, Tetanus, Polio, Hepatitis B, Pneumonia and Meningitis due to Haemophilus Influenzae type b (Hib), Measles, Rubella, Japanese Encephalitis (JE) and Rotavirus diarrhoea. (Rubella, JE and Rotavirus vaccine in select states and districts)) through universal immunization programme.

The Immunization program was started in India in 1978 as Expanded Program on Immunization (EPI) with DPT, BCG, OPV and typhoid paratyphoid fever vaccines. Since its initiation, the national program on immunization has undergone various modifications, the program has revamped as the Universal Immunization Program (UPI) in 1985, with the integration into the Child Survival and Safe Motherhood (CSSM) program in 1992, the Reproductive and Child Health Program (RCH-1) in 1997 and RCH-2 under the National Rural Health Mission (NRHM) in 2005. The two foremost milestones of the immunization programme has been the elimination of polio in 2014 and maternal and neonatal tetanus elimination in 2015.

The Universal Immunization Program (UIP) is one of the largest in the world, in terms of quantity of vaccines used, number of beneficiaries reached out to, number of immunization sessions organized, the geographical spread and heterogeneous of areas covered. It provides to nearly 27 million infants and 30 million pregnant women annually free of cost. There is a strong political pledge for achieving universal immunization coverage in the country along with the eradication and elimination of the targeted diseases.

Nearly 2–3 million children loss their lives each year from vaccine preventable diseases (VPDs). Study witnesses unimmunized and partially immunized children are most susceptible to childhood diseases and disability, and infer a 3–6 times higher risk of death as compared with fully immunized children. Even though universal immunization program, being operational for the past 30 years, only 65% (NFHS-4)children in India received all vaccines during their first year of life. It is estimated annually that, more than 89 lakh children in the country do not receive all vaccines that are available under the universal immunization program—the highest number compared with any other country in the world.

There are wide differences in the proportion of partially immunized and unimmunized children within states and districts. Recent evaluations have exposed that the major reasons for inability to reach with all vaccines to children in the country are lack of awareness among parents about the advantages of

vaccination, fear of side effects following immunization and operational reasons, such as unavailability of vaccines or vaccinators during vaccination sessions. The Ministry of Health and Family Welfare, Government of India, launched Mission Indradhanush in December 2014 to achieve more than 90% full immunization coverage in the country by the year 2020 with a insight that it will eventually close immunity gaps and strengthen immunization coverage. To boost the routine immunization coverage in the country, the Ministry of Health and Family welfare introduced Intensified Mission Indradhanush on 8 October 2017 and Intensified Mission Indradhanush 2.0 on October 31 2019 to achieve the Sustainable Development Goal of ending preventable child deaths by 2030.

Over the past few decades important developments have been made in reducing infant and under five mortality due to vaccine preventable diseases . Universal immunization programme has been contributing significantly to the reduction of Infant, neonatal and under five mortality associated with vaccine-preventable diseases. This downward trend has been observed for neo-natal and under-five mortality but in the context of Sustainable Development Goals (SDGs) it should be reduced neonatal mortality rate to 12 or less per 1000 live births and under five mortality rate to 25 or less per 1000 live births.

Objectives of the study:

1. To study the immunization status of under five years children in Karnataka
2. To understand the impact of immunization programme on child health.
3. To suggest the policies for full immunization coverage.

Methodology of the study:

The study is based on secondary data collected from various source like NFHS, DLHS, Sample registration system, Rapid survey on children etc. Immunization status was measured as per national immunization schedule. All basic vaccination consist of one dose BCG vaccine, three doses of DPT/Pentavalent vaccine, three doses of polio vaccine, and one dose of the measles vaccine.

Result and Discussion:

Karnataka has made great decisive step in health status of maternal and child health in the fast few decades. The state has been highly proactive in the implementation of the health services/schemes since independence. Nonetheless, the benefits of this schemes/programme are not distributed as per the need of the districts within the state of Karnataka. Therefore, one can observe wide disparity in levels of malnourishment, morbidity, mortality, immunization status of children across the state.

Table.1 District wise all basic vaccination list

Districts name	BCG	3 doses of DPT vaccine	3 doses of Polio vaccine	1st dose of measles	2nd dose measles
Bagalkot	95.5	92	84	93.1	24
Ballary	97.6	93.1	77.8	89.4	25.7
Bangalora Urban	95.4	90	78.2	85.4	38.9
Belgaum	97.2	91.6	87	91.8	27.7
Bengalore Rural	100	98.4	94.3	100	27.1
Bidar	97.7	86.6	87.2	81.8	26.4
Bijapur	95.5	84.7	81.4	81.8	31.5
Chamarajanagar	97.9	95.8	95.5	97.9	36.8
Chickmangalur	100	100	91	100	37
Chikkaballapur	87.9	83.8	81.2	92.4	36.4
Chitradurga	97.3	94.6	97.3	97.3	45.7
Dakshin Kannad	100	90	89	96.5	34.7
Davanagere	96	93.7	81.2	89.2	35.4
Dharwad	100	97.6	89.1	96.1	25.2
Gadag	93	82.1	86.3	85.5	45.1
Gulburga	95	87.4	81.9	84	25.6
Hassan	100	100	96.8	100	39.3
Haveri	98.6	97.2	95.7	97.2	36.6
Kodagu	93.7	93.7	90.6	93.7	32.9

Kolar	100	89	90.6	86.3	40.1
Koppal	97.3	94.2	84.8	90.3	19.3
Mandya	100	93.9	96.9	100	42.8
Mysore	100	97.2	100	100	47.8
Raichure	92	83.8	81.2	85	18.9
Ramanagar	100	100	100	100	38.4
Shimogga	100	98	98.1	98	37.4
Tumakur	100	100	100	97.7	42.8
Udapi	100	94	94.3	96.2	38.1
Uttar Kannad	98.2	96.7	93.6	96.7	46.1
Yadgiri	97.2	91	85.3	89.3	24.6
Karnataka	97.2	92.1	87.6	91.2	24

Source: DLHS-5 and NFHS-5

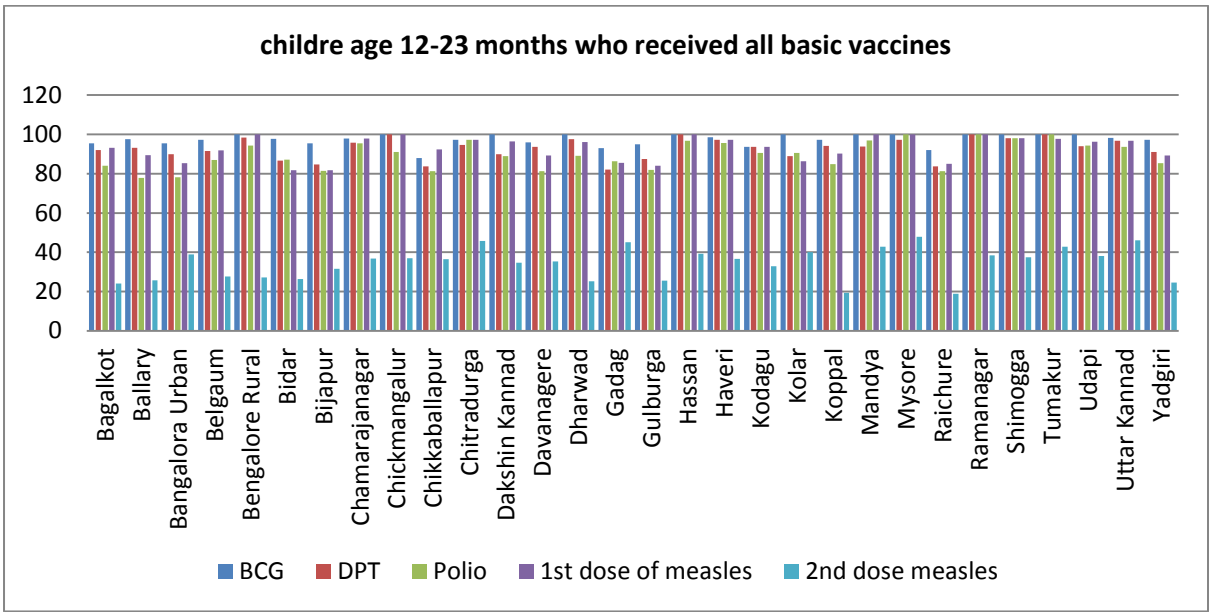

Table 1. Presents the data on coverage rate of all basic vaccination. BCG, or bacilli Calmett-Guerin, is a vaccine for tuberculosis (TB) disease. The data indicates that there is a considerable variation in the coverage rate of BCG. Some districts have 100 per coverage rate in BCG vaccination, but some districts have low coverage rate such as Chikkaballapur 87.9 per cent, Raichur 92 per cent, Gadag 93 per cent, overall Karnataka coverage rate is 97.2 per cent. OPV stands for Oral Polio Vaccine. It protects children from poliomylitis. The polio vaccine is given in doses at 6, 10, 14 weeks after birth. Data shows polio vaccine coverage rate is 100 per cent in three districts like Mysore, Tumakur and Ramnagar and some districts have low coverage rate in polio vaccine such districts are Ballary 77.4 per cent, Bangalore urban 81.2 per cent, Raichur 84 per cent, and Yadagiri 85.3 per cent. Overall polio coverage rate of Karnataka is 87.6 per cent. DPT vaccine is a combined vaccine to protect children from three diseases Diptheria, Tetanus, Pertusis. Coverage of DPT vaccine is ranging from 83 per cent to 100 per cent during period of 2019-20, overall DPT coverage rate of Karnataka is 92.1 per cent.1st dose of measles vaccination ranging from 81 per cent to 100 per cent during he same period, overall coverage rate of measles vaccine in Karnataka is 91.2 per cent. In case of second dose of measles coverage rate too low in all districts and all Karnataka level. It ranging from18.9 per cent to 47.8 per cent, second dose of measles vaccine added newly in immunization schedule so coverage rate was low. Overall Karnataka level coverage rate of 2nd dose measles vaccine was 2.

Coverage of all basic vaccination in Karnataka and India

Table 2 Coverage of all basic vaccination

Year	Karnataka	All India
1992-93	52.2	35.4

1998-99	55	42
2005-06	60	43.5
2015-16	62.6	62
2019-20	91.2	NA

Source: NFHS and DLHS data

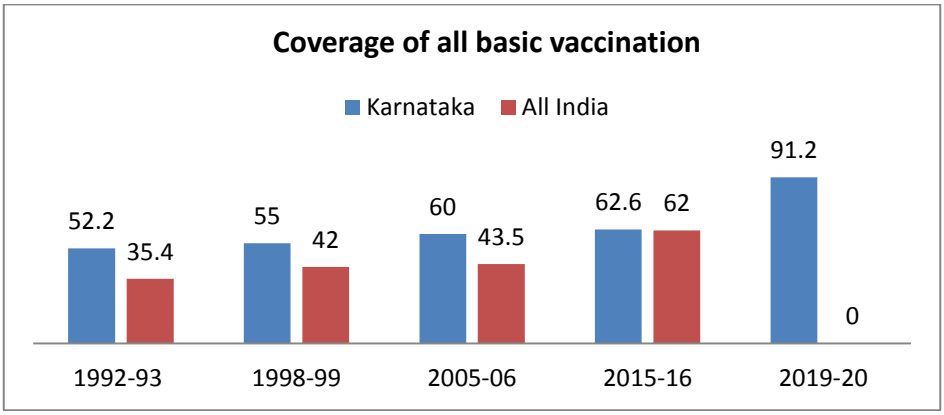

Table 2. Presents data on children age 12-23 months who received all basic vaccination in Karnataka during 1992-93 to 2019-2020. The data indicates proportion of children who have received all basic vaccination in Karnataka was estimated at 52.2 per cent, 55 per cent, 60 per cent and 62.6 per cent in 1992-93, 1998-99, 2005-06 and 2014-15 respectively. Further at all India level the proportion of children who have received all basic vaccination were estimated at 35.4 per cent, 42 per cent, 43.5 per cent and 62 per cent respectively during the same period. This implies that the dropouts for DPT and polio are relatively low level, so coverage for measles are most important factor to reach full immunization coverage.

Child mortality rates in Karnataka and India

UNICEF considered child mortality rate is basic indicator to determine the degree of progress of a country in the areas of social and economic development. . The child mortality rate is also under five mortality rate, refers to the probability of dying between birth and exactly five years of age expressed per 1,000 live births. It comprises neonatal mortality and infant mortality.

Reduction of child mortality is reflected in some of the United Nations' Sustainable Development Goals. Target 3.2 is "by *2030, stop preventable deaths of newborns and children under 5 years of age, with all countries aiming to decrease under-5 mortality to at least 25 per 1,000 live births".*

Table 3 Infant, Neo-natal and Under five mortality rates in Karnataka and India

Year	Neo-natal mortality rate		Infant Mortality Rate		Under-five mortality rate	
	Karnataka	All India	Karnataka	All India	Karnataka	India
1992-93	45.3	49	65.4	78.5	87.3	109
1998-99	37.1	43	51.5	67.6	69.8	94.9
2005-06	28.9	39	43.2	57	54.7	74.3
2015-16	18.5	30	32	41	31.5	39
2019-20	15.8	22	25.4	28.3	29.5	34

Source: NFHS, DLHS and SRS data

Table 3 presents data on neonatal, Infant and under five mortality in Karnataka as well as India. Neonatal mortality rate is decreased from 45.3 to 15.8 per 1000 live births in Karnataka during 1992-93 to 2019 20, while at India level neo-natal mortality decreased from 49 to 22 per 1000 live births during the same period. The infant mortality rates also vary significantly ranging from 65.4 to 25.4 per 1000 live birth in Karnataka during the 1992-93 to 2019-20. At the India level IMR ranging from 78.5 to 28.3 during the same period. Data on under five mortality rate is decreased from 87.3 to 29.5 in Karnataka and 109 to 34 at all India level during 1992-93 to 2019-20. The proportion of neo-natal, Infant and under five mortality rate tend to significantly decrease over a three decades period in both Karnataka and all India level.

Conclusion:

Overall, coverage of immunization was at appreciation level in Karnataka. Good coverage has been established for BCG, OPV, DPT and 1st dose Measles vaccination but 2nd dose measles vaccine missed due to lack of awareness about the newer vaccine. Coverage of 2nd dose of measles vaccine can be

improved by effective community mobilization by ASHA and Anganwadi workers. Health education part should be given more emphasis during immunization sessions and effective conduction of monthly Village Health and Nutrition days and give more emphasis to maternal and child health topics especially immunization related aspects, targeting poor mothers and mothers having lowered level of education and illiterate.

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Where Does Equality Lie in Motherhood?

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Abstract
Motherhood, or the state of being a mother is a biological conditioning (now primarily) offered to the female body. This biological phenomenon is unlike other natural happenings because it has a notion of morality attached to it. The assumed source of this questioning of morality is patriarchy. Due to the ever-existing stereotypical division of labour within a household, women are expected to be confined within the domestic circle. And as they are successfully assigned this role, they are expected to take care of children as well, solely, because the men in the families have other important jobs to perform. Women are generally not provided with the choice of whether they want to conceive as women are still expected to be born with a sole purpose, and that is motherhood. Flawed ideas injected about motherhood through repetitive media content, make majority of the mass believe that motherhood is a performance that is pure. Whatever most of the people believe, becomes the sole ethical. This paper is an attempt to revisit the problems of gender inequality, already existing in the society that we are accustomed to perceive in our daily lives, with context to the notion of motherhood.

Keywords: Motherhood, Morality, Patriarchy, Choice, Inequality

Introduction

Judith Butler in 1990 argued that apart from a set of distinct roles that are imposed by the society to the genders, gender is also a performance or role enacted by individuals. When acted out according to the society determined path, these performances are validated by the society itself. From the very tender age girl children are pushed into playing the role of the mother, that is, the caregiver. As Lala Lajpat Rai stated, "Every woman is a mother in embryo. That is her supreme function in life. That is her social mission", the statements mentioned right before are authenticated. Psychoanalyst Sudhir Kakar rightfully stated that in India, "the good mother construct is the product of the male imagination". Women in order to be a perfect mother, as society devices, often tend to go through numerous struggles. They have to keep on oscillating between home and workplace, where home and the home-bound duties are considered to have the foremost importance. In media representations, via advertisements, daily soaps and cinema, mothers are always portrayed to be sacrificing, over the top emotional and irrational and close enough to a deity-like entity. The state of being a mother, compared to all other duties and responsibilities in the world is approved of as the ultimate duty a born to perform as a part of her gender role.

Theme

The choice of motherhood is generally never granted to women. Patriarchy, masked under the abstract called society, dictates when a woman is eligible to have a child. With the second-wave feminism, questions regarding the choice of women for abortion were raised. Under varied circumstances, abortion in India is legal. But, it is socially unacceptable as well. Morality of the pregnant mother is questioned as mothers are viewed as mother goddesses who are the sole symbols of creativity, birth, fertility, sexual union, nurturing, and the cycle of growth, conceptualized from the Virgin Mary. Indian dramatist Vijay Tendulkar in *Silence! The Court is in Session*, that is a social satire, portrayed the un-meaningful lofty associations with motherhood prevalent amidst the Indian social structure which is extracted in some of the lines below,

SUKHATME. Motherhood is pure. Moreover, there is a great—er —a great nobility in our concept of motherhood. We have acknowledged women as the mother of mankind. Our culture enjoins us to perpetual worship of her. 'Be thy mother as a god' is what we teach our children from infancy. There is great responsibility devolving upon a mother. She weaves a magic circle with her whole existence in order to protect and preserve her little one—

KASHIKAR. You've forgotten one thing. There's a Sanskrit proverb,

Janani janmabhumischa svargadapi gariyasi.

'Mother and
The Motherland,
Both are even
Higher than heaven.'

MRS KASHIKAR [*with enthusiasm*]. And of course, 'Great are thy favours, 'O mother' is quite famous.

Postpartum depression depression is a term that many of us do not know. The idea of postpartum depression is not a very well known one because it totally defies our concept of motherhood and its loftiness. This state of dis-ease often is seen due to certain physical (changes in levels of estrogen and progesterone) and emotional changes (that arise from sleeplessness while caring for the baby as well as a sudden bulging responsibility with nobody to share) that a mother has to go through while in pregnancy, still a woman has ethically no right to decide upon her own understanding of the right time for giving birth. Women are usually more burdened while during parenthood as the child is physically and emotionally solely dependent upon its mother. Whether the roles such as feeding and weaning can be replaced by a male parent, is questionable. According an article by World Health Organization,

Among the studies included in our review, risk factors for postpartum depression included financial difficulties, birth of a female child, marital conflict, lack of support from the family, past history of psychiatric illness, high parity, complications during pregnancy and low maternal education. Previous studies from low- and middle-income countries report similar risk factors. Still, for many especially in parts of India and its neighbouring states, postpartum depression still manages to stay as a made-up concept.

In Margaret Atwood's *The Edible Woman*, we can observe Aisnley, who *wanted* to attain that ideal figure of a mother by engaging herself in the venture of finding a prospective person who might help her conceive a baby. The ideal that Ainsley holds in her mind can be deciphered by the readers, when in the novel she says, "Every woman should have at least one baby" [...]" It's more important than sex. It fulfills your deepest femininity". Through this we can identify the image of Clara in *The Edible Woman* who can be called an ideal figure in the words of Ainsley for having been able to serve herself as a mother. But parallelly Clara detests her present condition that simultaneously disqualifies herself as an ideal figure of womanhood. We find such a happening when, Clara pried the baby away from her body and transferred it to Ainsley, saying "Come on, you little leech. I sometimes think she's all covered with suckers, like an octopus." She lay back in her chair and closed her eyes, looking like a strange vegetable growth, a bulbous tuber that had sent out four thin white roots and a tiny pale-yellow flower.

Naomi Wolf in her book *Misconceptions: Truth, Lies, and the Unexpected on the Journey to Motherhood* voiced,

It is not biology alone but heroism too that drives women to find the will and grit and creativity to put one's own impulses aside to serve the needs of a tiny creature around the clock—especially in an environment in which that heroic choice is only casually acknowledged, much less honored, cherished, or assisted. I believe the myth about the ease and naturalness of mothering—the ideal of the effortlessly ever-giving mother—is propped up, polished, and promoted as a way to keep women from thinking clearly and negotiating forcefully about what they need from their partners and from society at large in order to motherwell, without having to sacrifice themselves in the process.

The womb- trade has become a really huge problem in the current condition. It has managed to be one of the biggest money-manufacturing industries because of the fact that childlessness is a social stigma. Infertility questions the potential of a woman and is considered a taboo. Another reason behind this booming business is the extreme want of male children amongst most Indian households. In an article by *The Conversations,* it has been stated that,

In India, where […] surrogacy since 2008, the government is rethinking regulations. Gay couples were banned from using commercial surrogacy in 2012. In March 2017, the Indian government extended the commercial ban to everyone. Now, only so-called "altruistic surrogacy" is allowed – when a consenting female family member bears a child for a childless heterosexual Indian couple without pay.

Similarly, single motherhood is also not accepted because of the already existing patriarchal construct. Women are not allowed to be independent even as a parent. Through these ethical (sometimes legal too) restrictions, women would always have to have the need of a man to safeguard their identity as a woman (where, motherhood equals a woman's true identity).

Conclusion

Naomi Wolf, in a chapter titled, "Beyond the Beauty Myth" in *The Beauty Myth*, said,

But it is also in men's interest to undo the myth because the survival of the planet depends on it. The earth can no longer afford a consumer ideology based on insatiable wastefulness of sexual and material discontent. We need to begin to get lasting satisfaction out of the things we consume. We conceived of the planet as female, an all-giving Mother Nature, just as we conceived of the female body, infinitely alterable by and for man; we serve both ourselves and our hopes for the planet by insisting on a new female reality

on which to base a new metaphor for the earth: the female body with its own organic integrity that must be respected.

This is such a world where the incompetence of the female body is equaled and measured by the failure to follow the path of motherhood. Motherhood instead of being an epitome of fullness, becomes a forced representation of sacrifice, toxically portrayed as selfless love. What should be at ease becomes diseased only due to the superficial ideas relating to motherhood.

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Need of Quality Education

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Abstract

The paper shows that how we need of quality education not just education. A quality education is a privilege and a need. Low quality education leads to high unemployment rate especially in rural areas, students from rural areas getting education but not quality education and this is the biggest problem rural youth facing today. Most of people belongs from rural area have only one source of make their life better or source of livelihood is employment through education but due to lack of quality education they haven't acquire proper knowledge, skills and ability to doing something. A good quality education is one that provides all learners with capabilities they require to become economically productive, develop sustainable livelihoods, contribute to peaceful and democratic societies and enhance individual wellbeing. education without quality education is just trap for every student they never know what they are going to pay for that in future. It's better to be illiterate than nominal literates unemployed. Poor quality education is leading to poor learning outcomes in India,

Key words:*-Quality education, Sustainable development goal 4, Quality, Equity and Access*

Introduction

Right to education is a fundamental right. Article 21-A of the Indian Constitution states clearly that the all children of the age of 6-14 years should be provided free and compulsory education. India's literacy rate is just 74.04% and in Bihar it is only 63.82%. The Right to Education (RTE) Act does not seem to be effective. The Act states that schools should keep a 25% quota for students whose families earn less than 1 lakh per annum. Such students' education costs (fees, uniform, study material, transportation) should be borne by schools, which in turn will get money from the government. As the government does not pay such schools adequately, the outcome of RTE does not materialise. The Global Education Monitoring (GEM) 2017-2018 report also states that India has not been able to provide even the basic elementary education to all children. Rural students not getting quality education, there is no equality in education system, they can't access good source of education material due to poor and language barriers, so main three aspects Quality, Equity, and Access are missing in rural education. then how Rural student compete with other students who got quality education and has lots of resource like good schooling, colleges, availability of good coaching classes also internet facility communication transportation, information and experiences.And financial supports from their parents.

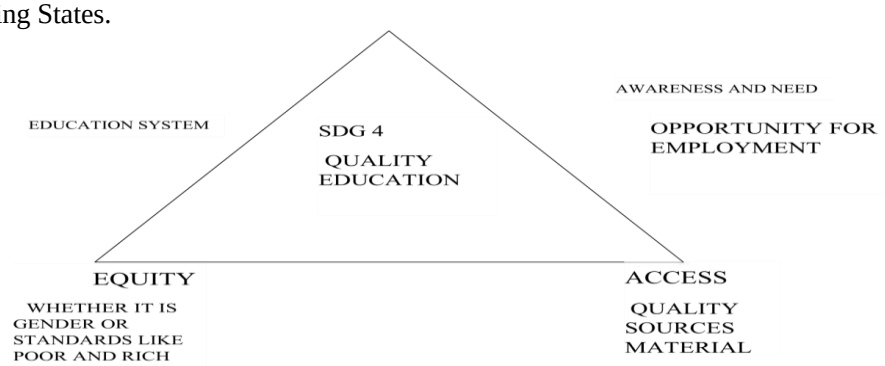
According to the report, 47% graduates are not employable in any sector of the knowledge economy. Youth unemployment in India is among the major concerns and is one of the most widely discussed issues, yet it has hardly seen any resolution. Education for us Indians is finishing schools and colleges. But we fail to understand that that's not it.Talking about the youth population and youth unemployment in India, according to a source, every year, India sees 8-9% increase in enrolment at the higher education level. India is among the top 5 countries to have highest number of students going to the universities. The problem here is that there is no equivalent rise in the number of opportunities. Lack of quality education makes student weak because absence of right skills, knowledge they always feels underconfident and not facing life challenges. are not motivated because they feel their basics are not strong. foundation is not strong to bounce back and demand something big from themselves. Specially rural areas students mindset like we not deserve good job also we cant get any kind of job and this kind of belief destroy their life and this all because of the fundamental right that is education is became quality less. Majority of people living in villages have understood the importance of education and know that it is the only way to get rid of poverty. But due to lack of money they are not able to send their children to private schools and hence depend upon government schools for education.

The only solution for this problem is awareness of quality education and not just theoretically but practically implementation of quality, equity, accessibility policy in education. By achieving below sustainable development goal 4 quality education target india also overcome lots of emerging education problems. Implementation of the National Education Policy 2020 being a priority UNICEF will provide technical support at national and state level in the key areas related to curriculum revision, learning assessment and reporting, foundational learning,life skills and career guidance.

SDG 4 is made up of 10 targets

Target 4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.

Target 4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are readyfor primary education.
Target 4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.
Target 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment,decent jobs and entrepreneurship.
Target 4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerablesituations.
Target 4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.
Target 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and nonviolence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.
4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all.
Target 4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries.
Target 4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States.



1. Quality
Free and compulsory quality pre-primary education is encouraged, to be delivered by well-trained educators, as well as that of early childhood development and care.
2. **Access**
Equitable access to TVET needs to be expanded while quality is ensured. Learning opportunities should be increased and diversified, using a wide range of education and training modalities, so that all youth and adults, especially girls and women, can acquire relevant knowledge, skills and competencies for decent work and life.
3. Equity
Inclusion and equity: All people, irrespective of sex, age, race, colour, ethnicity, language, religion, political or other opinion, national or social origin, property or birth, as well as persons with disabilities, migrants, indigenous peoples, and children and youth, especially those in vulnerable situations or other status, should have access to inclusive, equitable quality education and lifelong learning opportunities. Gender equality: All girls and boys, women and men, should have equal opportunity to enjoy education of high quality, achieve at equal levels and enjoy equal benefits from education.
Conclusion

By achieving these SDG 4 target india also improve quality education and gives strength to youth for great future. A good quality education is one that provides all learners with capabilities they require to become economically productive, develop sustainable livelihoods, contribute to peaceful and democratic societies and enhance individual well-being.

The focus should be more on school education than on higher education. Primary and secondary education is the foundation for tertiary education. Strengthening the foundation is the need of the hour. Setting a target of 90% literacy rate and achieving it should be a top priority. As the schools of the future need qualified and well-trained teachers, teacher training should be another top priority. Without focusing on the professional development of school teachers, the quality of school education cannot be improved. To make all these happen, it is important to allocate at least 6% of the GDP on education.

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Targets of Sustainable Development Goals-"Agenda 2030"

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Introduction

The United Nations Development Programme (UNDP) proposed Agenda 2030 to address the various sustainability goals for making the world a much better place to live for all. The Millennium Development Goals (MDG) set by UNDP in 2000 were executed by different nations and a reasonable success was achieved across the world till 2015. The UNDP proposed 17 sustainable development goals in 2015 which were left behind through MDG's. all these goals are closely associated with the problems of human existence in the long run. The developmental models accepted by different countries have created various problems across the world. The biggest problems are hunger, poverty, environment sustainability, pollution, biological weapons, cutting edge technology and many more. All these problems require durable and feasible solutions so that the future generations of human being can take a healthy breather. Climate change is also a vulnerable issue now days, which has affected agricultural patterns in developing as well as backward countries. Today even after 6 years of introduction to these sustainable development goals, there is a lot to be achieved by different countries. The sustainable development goals are the benchmarks set up by UNDP for attaining a better quality of life to all living things on planet earth. It is obvious, that every country wishes to achieve economical development and self reliance for its existence; but at the same time te issues deriving from the economic conflicts require long run attention. The present article is an attempt to understand the expectations and reality of sustainable development goals in the present as well as future context.

Objectives of the paper:

1. *To discuss the major sustainable development goals set by UNDP*
2. *To discuss the implementation of SDG's across the world.*

Research Methodology

The present article is based on disruptive and analytical method o research. The data is basically collected from secondary sources like books, journals and articles from internet. The researcher has used tables, charts and diagrams to elaborate the various concepts related to the paper. The paper is also focused to give suggestions on effective implementation of the policies of SDG's through its empirical investigation.

The Sustainable Development Goals set by UNDP

United Nations, through its development programme proposed 17 SDG's named as Agenda 2030. This agenda is basically prepared to uplift the quality of life in third world and developing countries in the world. The industrial and technological advancement of humans have made human life easy at one end but on the other end they posed some serious questions to the very existence of life on earth. The climate change, environmental and geographical damages and heavy consumption of natural resources have created vulnerable situation across the continents. These problems are a mixture of all, social, economical, ecological, political and biological problems. Therefore, it is the urgent need of the time to address these challenges and find sustainable solutions for a better life on earth. The following diagram gives a brief up of the sustainable development goals set up by the UNDP.

Source: https://www.hiltonfoundation.org/sdgs

Targets for all SDG's

1) No Poverty:

a) By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day.

b) By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.

c) Implement nationally appropriate *social protection systems and measures for all*, including *floors*, and by 2030 achieve *substantial coverage* of the poor and *the vulnerable*.

d) By 2030, ensure that all men and women, in particular the poor and *the vulnerable*, *have equal rights to economic resources*, as well as access to basic services, ownership and control over land and other forms of 13 property, inheritance, natural resources, appropriate new technology and financial services, including micro-finance.

e) By 2030, build the resilience of the poor and *those in vulnerable situations* and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

f) Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions.

g) Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions

2) Zero Hunger

a) By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.

b) By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons

c) By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment

d) By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality

e) By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed

f) Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round

g) Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.

3) Good Health and Well Being

a) By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births
b) By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births
c) By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases
d) By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.
e) Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol
f) By 2020, halve the number of global deaths and injuries from road traffic accidents 3.7.

4) Quality Education

a) By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and Goal-4 effective learning outcomes
b) By 2030, ensure that all girls and boys have access to quality early childhood development, care and preprimary education so that they are ready for primary education
c) By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
d) By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

5) Gender Equality

a) End all forms of discrimination against all women and girls everywhere
b) Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation
c) Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation
d) Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate
e) Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic and public life.

6) Clean Water and Sanitation

a) By 2030, achieve *universal and equitable access to safe and affordable drinking water for all*
b) By 2030, achieve *access to adequate and equitable sanitation and hygiene for all* and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
c) By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
d) By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

7) Affordable and Clean Energy

a) By 2030, ensure *universal access to affordable, reliable and modern energy services*
b) By 2030, increase substantially the share of renewable energy in the global energy mix
c) By 2030, double the global rate of improvement in energy efficiency
d) By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology
e) By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support.

8) Decent Work and Economic Growth

a) Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries

b) Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors.

9) Industry, Innovation and Infrastructure

a) Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

b) Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries

c) Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.

10) Reduce Inequalities

a) By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average

b) By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

c) Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard

d) Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.

11) Sustainable Cities and Communities

a) By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

b) By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

c) By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

d) Strengthen efforts to protect and safeguard the world's cultural and natural heritage.

12) Responsible Consumption and Production

a) Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries

b) By 2030, achieve the sustainable management and efficient use of natural resources

c) By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

d) By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

e) By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

13) Climate Change

a) Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

b) Integrate climate change measures into national policies, strategies and planning

c) Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

14) Life Below Water

a) By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

b) By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

c) Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels

d) By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics
e) By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information.

15) Life on Land

a) By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and dry lands, in line with obligations under international agreements
b) By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally
c) By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world
d) By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.

16) Peace, Justice and Strong Institutions

a) Significantly reduce all forms of violence and related death rates everywhere.
b) End abuse, exploitation, trafficking and all forms of violence against and torture of children.
c) Promote the rule of law at the national and international levels and ensure equal access to justice for all.
d) By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organised crime.
e) Substantially reduce corruption and bribery in all their forms.

17) Partnership for the Goals

a) Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection
b) Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of ODA/GNI to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries
c) Mobilize additional financial resources for developing countries from multiple sources
d) Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress
e) Adopt and implement investment promotion regimes for least developed countries.

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Dr. S.R. Ranganathan, India's "Father of Library Science," discusses efforts as well as honors.

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Abstract:

S. R. Ranganatan is a mathematician who primarily works in the field of library professionals. In Japan, he is a well-known library and information management scientist. He purchased his life and devoted himself to the field. He has made important contributions to projects, programmes, and policies aimed at advancing library science in India. India commemorates S. R. Ranganatan's birthdate on "National Library Day" in his honour. Shiyali Ramamrita Ranganathan's most critical commitment to this field was the formation of the Five Laws of Library and Colonic Taxonomy, the principal significant aspect classification system.He is viewed as the dad of Indian library, report and data science, and is generally known all throughout the planet for his crucial deductions in the field. He was a college custodian and educator of library science at Banaras Hindu University (1945-47), and teacher of library science at Delhi University (1947-55). In his last arrangement, he turned into the senior member of the main Indian library to offer a more significant level. From 1944 until 1953, he was the president of the Indian Library Association. In 1957, he was named a favoured individual by the International Federation for Information and Documentation (FID), and he was appointed VicePresident of the British Library Association for life.

Keywords: *Five Laws, Library Science, Chain Indexing, Colon Classification.*

Introduction:

Shiyali Ramamrita Ranganathan, (SRR) Father of Library and Information Science development in India. He was brought into the world on August twelfth 1892 at Shiyali in the Tanjur area in the province of Tamil Nadu. He married in 1907 when he was fifteen years of age. His better half's name was Rukmini. Tragically, she was kicked the bucket in a mishap on 13 November 1928 at the Parthasarathy Koil Tank, Triplicane, Madras, where she had gone for a shower.

Ranganathan married Sarada again in December 1929; she was also given to Rangana and assisted him with library calling.She even convinced him to give enormous amounts of cash to the Chair of Library Science at Madras University and to the Endowment.

Early life and education:

Ranganatan's early education began at Aksharabyasam on Vijayadasami Day in October 1897, at Ubaya Bedan Saplum near Shiyari.. Anthharama Ayyar and Sanskrit teacher Thiruvenkatachariar. Ranganatan learned from them the life of Nayanar (Shy Baite Bactus) and Alvars (Baishna Weite Bactus). Langanasan completed the entrance exam to S.M. in 1908/1909. Shiyari Hindu High School. He completed the assessment in the first class, ignoring pains such as pallor, stammering, and stammering. When Langanasan was concentrating on high school, he was a researcher for Father Sri Aurobindo of Subramanya Ayar. Langanasan took moderate classes at Madras Christian College in March 1909. He received his master's degrees from Madras Christian College in 1913 and Presidential College in Madras in 1916. In 1917, he was appointed lecturer at Government College in Mangalo. With this in mind, he attended Madras University Presidenty College from 1921 to 1923, and Coimbatore Government College from 1920 to 1920. Langanasan began her professional life as a mathematician and gradually moved from the scientific resources of Mangalore, Coimbatore, and Madras as an individual to an individual. As a professor of mathematics, he has published a small number of papers, mainly on the historical context of science. His educational career was hampered by terrible weaknesses. In 1923, the University of Madras created a post for university librarians to compile various unregulated journals. None of the 900 applicants are ready to become librarians, the research advisory board requires a suitable set of ranganathan dissertations, and the competitor needs a basis for the exam. His only knowledge of the librarian was an article in the Encyclopaedia Britannica which he had read a few days before his meeting. In January 1924, Ranganathan left President's College and was assigned to be the first university librarian at the University of Madras. In September 1925, he went to England to study at University College London in order to prepare for his career as a trader. After finishing the library and science to be dealt with in six months, he visited many libraries during this time and noticed that the arrangement of characteristics, classification, and so on was illogical, and there were significant improvements in library science and science. In fact, he started working at the University of Madras in 1925 and continued until 1944. He was professor of library management and library management at the Hindu University of Varanasi (Banaras) from 1945 to 1947,

and studied at Delhi University from 1947 to 1954. In 1954-1957, he devoted himself to the written exams in Zurich. A few years later, he returned to India and in 1959 he worked as a visiting educator at Vikram University in Ujjain. In 1962, he founded the Center for Documentary Education and Research in Bangalore, which he served as director and later as a partner. For the rest of his life, and in 1965, the Government of India honored him with the title of Librarian, Professor of Public Science. Ranganathan discovered that the isolation of the site was terrible. Only a few weeks later, he returned to college, but was exhausted and demanded a replacement. Langansan arrived in London, preparing to investigate modern Western practices in his post as a librarian. If he comes back and always quits his job as a librarian, the math class will be hiss again.

Major Contribution of Dr.Ranganathan

Five Laws of Library science

These were published in 1931.

The five laws are: Books Are For Use, Every Reader His Book, Every Book Its Reader,Save the Time of the Reader, Library Is a Growing Organism

1. **Colon Classification**

   Ranganathan's first significant work on his new classification system, the Colon Taxonomy, was released. Its core principles, on the other hand, necessitate the investigation of a subject to define its numerous characteristics, known as perspectives, and the formulation of a class number from simply referring to distinct facets in published schedules. Colon Categorization is thus classified as an analytico synthetic classification system.Ranganathan was the first person to thoroughly explain small aspect ideas, and his work has had a significant influence on present assessment instruments.

2. **Classified Catalogue Code**

   Dr R Ranganathan's Classified Catalogue Code is another significant contribution. These were debuted in 1934. In this work, he argued that a catalogue should include two components. One section should be classified by subject, mirroring the library's categorization system, with class number entries. The other should be a dictionary catalogue with author, title, series, and related identifiers, as well as alphabetized subject entries. A catalogue's purpose is to categorise works so that they may be located by author, title, series, and so on. It must also allow users to browse a collection of literature on a scientific discipline.

3. **Chain Index**

   Ranganathan invented a simple approach called chain indexing to determine subject entries for the dictionary catalogue. Each facet of a subject, together with its immediately preceding aspects, is simply used as an index entry in this technique. As a result, all critical parts of the subject are automatically addressed, from the broadest to the most particular. Other categorization systems can also benefit from chain indexing.

Honors to Dr.Ranganathan's Credit:

Number of honours received by Dr.S.R.Ranganathan. They are,

The Indian government honored him with the title Rao Sahib and the public service award Padmashri to him in 1935 and 1957, respectively.

He was awarded an honorary Doctorate of Literature by the University of Delhi in 1948.

He obtained the same degree at the University of Pittsburgh in 1964.

The Indian government appointed him as a national research professor in 1965, and in 1970, he earned the American Library Association's Margaret Mann Citation in Cataloguing and Classification.

Following his death, the FID created the Ranganathan prize in his honour in 1976. This certificate of distinction is given out every two years to recognise a recent excellent achievement in the field of classification.

Books Authored by S. R Ranganathan

1. Colon classification
2. The five laws of library science
3. Prolegomena to library classification
4. Ramanujan, the man and the mathematician
5. Library book selection

6. Reference service
7. Classified catalogue code, with additional rules for dictionary catalogue code
8. Library manual, for library authorities, librarians, and honorary library workers
9. Library administration
10. Free book service for all; an international survey
11. A Librarian looks back : an autobiography of Dr. S.R. Ranganathan by S R Ranganathan and P N Kaula

Books Written on Dr. S.R. Ranganathan:

1. Ranganathan's Philosophy: Assessment, impact and relevance: Proceedings of the International conference by T.S.Rajagopalan.
2. Ranganathan, a pattern maker : a synthetic study of his contributions by A. P .Srivastava
3. Relevance of Ranganathan's contributions to library science by T S Rajagopalan
4. S.R. Ranganathan, 1892-1972 : papers given at a memorial meeting on Thursday 25th January 1973 by Edward Dudley
5. An essay in personal bibliography: Ranganathan Festschrift. A bibliography of the writings on and by S.R. Ranganathan and A.K. Das Gupta
6. S.R. Ranganathan, Pragmatic Philosopher of Information Science: A Personal Biography by Ranganathan Yogeshwar
7. Ranganathanism and Knowledge Society: Relevance of Dr. S.R. Ranganathan in the Present Day Knowledge Society and Other Essays by Satyanarayana

Conclusion:

Ranganathan's accomplishments in the subject of Library Science are notable in India. felt uncomfortable with the digit categorization, which was extensively used at the time, for failing to accomodate the quickly emerging categories. As a result, he developed a new type of categorization known as "Analytico-synthetic classifying."

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Impact assessment of Irrigation on Land use in Osmanabad District

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Abstract

Irrigation has played significant role in poverty alleviation by providing food security, defence against famine, and expanded opportunities for employment both on and of the farm. Growth of irrigated agriculture has been main engine for economic development and poverty reduction. Water is the basic resource for all living things including mankind and for growing and survival of plants. In the year of 2019, there were 948807 hectares total cropped area and total irrigation area were 120283 hectares in the district. The impact of irrigation on land use is best understood, when two aspects of Net sown area and Double Cropped area. Net sown area directly involves the appropriating of the other land use components, at times, through extended irrigation facilities. An increase in cropping intensity on the other hand, is possible only through intensive agriculture. Hence, it is also mandatory upon irrigation, the most fundamental element of net sown area. A direct consequent of this is the disparity in the extent of irrigated area, both finding important parts of total land use. Main objective of this paper is to assess the impact of total irrigation on land use in Osmanabad District.

Keywords: *1. Irrigation, 2. Net sown area, 3. Double Cropped area, 4. Gross Cropped Area.*

Introduction:

Irrigation has played significant role in poverty alleviation by providing food security, defence against famine, and expanded opportunities for employment both on and of the farm. Growth of irrigated agriculture has been main engine for economic development and poverty reduction. Water is the basic resource for all living things including mankind and for growing and survival of plants. Environmental process of biosphere is also regulated by water indication. Which is found in the form of human settlements near availability of water motivates development where absence of water leads to destruction. For the period of last century man has exploited this resource very fast through various actions as a result of which many water scarcity areas of the world have come up as hot spots of water crisis resulting danger renewable and non-renewable sources of fresh water.

Objective:

- To assess the Impact of irrigation on land use in Osmanabad District.

Database and Methodology:

Present study generally depends on the secondary data. Collected through censes handbook of Osmanabad District, District statistical Department, Water Resources Department of Osmanabad district, District booklet Showing The Progress and current status of all irrigation schemes of Osmanabad district and socioeconomic abstract of Osmanabad District. The collected data are analysed by statistical and cartographic techniques.

This formula use for calculate Growth Rate

$$Growth\ Rate = \frac{Current\ Yearsx}{Base\ Year} x100$$

This formula use for calculate Correlation:

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[n\Sigma x2 - (\Sigma x)2][n\Sigma y2 - (\Sigma y)2]}}$$

Study Area:

Osmanabad is one of the 8 district of Marathwada region. The district lying between $17^0\ 35^{'}$ N to $18^0\ 40^{'}$ North Latitude and $75^0\ 16^{'}$ E to $76^0\ 40^{'}$ East longitude situated in Balaghat plateau region. It has total geographical area of 7512.4 Sq. Km. the district of Osmanabad has following sub-divisions like Osmanabad, Tuljapur, Omerga, Paranda, Kalamb, Bhoom, Lohara and Washi. It is bounded by Sholapur District to the South-west, Ahemadnagar to the North West, Beed to the North, Latur to the East and North -East, Bidar & Gulbarga district of Karnataka state to the South.

Impact assessment of irrigation on Land use:

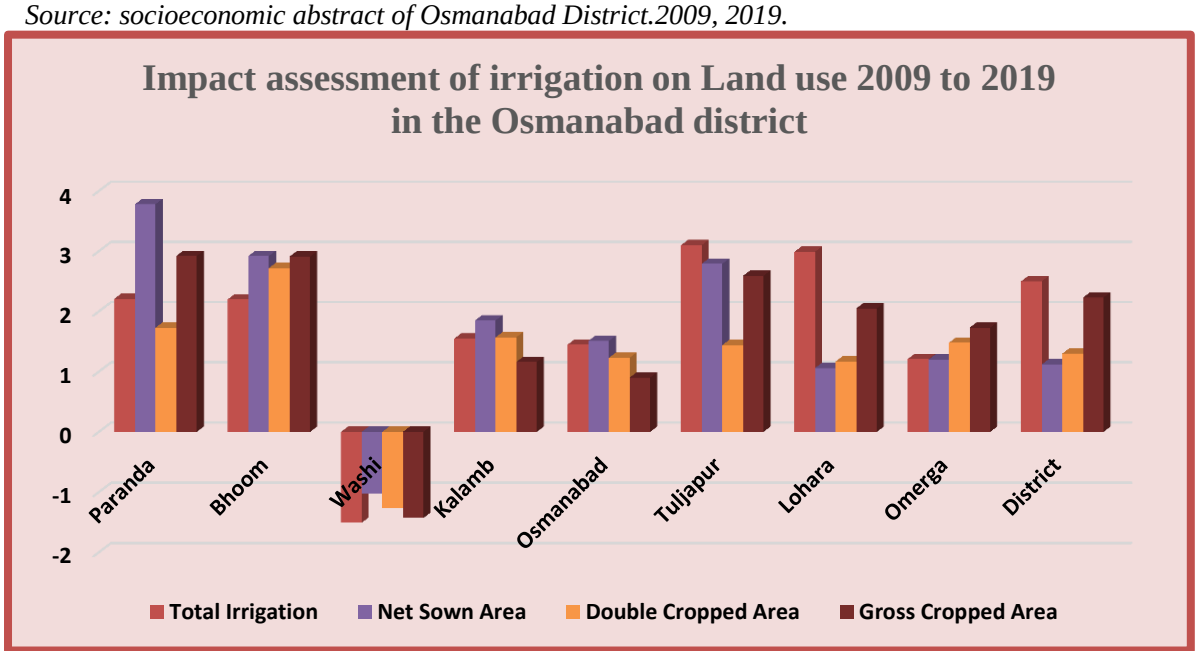
Land utilization in Osmanabad district is presented in the table it is seen from that total geographical area of the district is 751240 hectares. There are spatial variations in the general land use pattern in the study area. The land is grouped into Seven major types of uses, namely (1) Area Covered by Forest (2) Non cultivable Land (3) Other Cultivable Land (4) Fallow Land (5) Net sown area (6) Double

Cropped Area (7) Gross Cropped Area. The impact of irrigation on land use is best understood, when two aspects of Net sown area and Double Cropped area. Net sown area directly involves the appropriating of the other land use components, at times, through extended irrigation facilities. An increase in cropping intensity on the other hand, is possible only through intensive agriculture. Hence, it is also mandatory upon irrigation, the most fundamental element of net sown area. A direct consequent of this is the disparity in the extent of irrigated area, both finding important parts of total land use.

Impact assessment of irrigation on Land use 2009 to 2019 in the Osmanabad district

Tehsils	Total Irrigation	Net Sown Area	Double Cropped Area	Gross Cropped Area
Paranda	2.21	3.78	1.73	2.92
Bhoom	2.20	2.92	2.72	2.91
Washi	-1.51	-1.02	-1.27	-1.43
Kalamb	1.55	1.85	1.57	1.16
Osmanabad	1.45	1.51	1.23	0.90
Tuljapur	3.10	2.79	1.44	2.59
Lohara	2.99	1.06	1.17	2.05
Omerga	1.21	1.20	1.48	1.73
District	2.50	1.12	1.30	2.23

Source: socioeconomic abstract of Osmanabad District.2009, 2019.



In the years between 2009 to 2019 growth rates of total irrigation area were increased 2.50% and highest growth rates of total irrigation area were increased in Kalamb 3.10% and highest growth rates of total irrigation area were decreased in Omerga -1.51%. In the years between 2009 to 2019 growth rates of Net sown area were increased 1.12% and highest growth rates of Net sown area were increased in Paranda 3.78% and growth rates of Net sown area were decreased in Washi 1.02%. In the years between 2009 to 2019 growth rates of Double cropped area were increased 1.30% and highest growth rates of Double cropped area were increased in Bhoom 2.72% and growth rates of Double cropped area were decreased in Washi 1.27%.In the years between 2009 to 2019 growth rates of Gross cropped area were increased to 2.23% and highest growth rates of Gross cropped area were increased in the Paranda tehsils 2.92% and growth rates of Gross cropped area were decreased in Washi tehsils 1.43%.

Conclusion:

In the Years of 2009 to 2019 growth rates of total irrigation area were increase 2.50%, growth rates of net sown area were increased 1.12%, Growth rates of double cropped area were increased 1.30% and growth rates of gross cropped area were increased 2.23%. About growth rates of total irrigation area increase that time net sown area, double cropped area and gross cropped area growth rates are increased.

Correlation between water resources and net sown area is found 0.71 it is strong correlation between irrigation and net sown area. Correlation between water resources and double cropped area is found 0.78 it is also strong correlation between irrigation and double crop area. Correlation between water resources and gross cropped area is found 0.90 it is also very strong correlation between irrigation and gross crop area.

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Sustainable Development Goals: Analysis of Initiative, Execution and Challenges in Gender Equality in India

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Abstract
Sustainable development that aims towards an equitable allocation of resources cannot be successful without ensuring gender equality since women have limited access to resources such as education, employment, nutrition, land and health care throughout the world. On 25th of September, 2015 the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development. Women empowerment has been observed as a key to achieving all the goals set in the agenda and thus gender equality has been recognized as central to this vision of transformation. Gender inequality exists in several dimensions such as poverty, hunger, health, sanitation, urbanization, climate change, conflict, peace and many more. This paper tries to focus on the Goal 5 of Sustainable Development Goals which is 'Gender Equality' and the situation in India. It primarily tries to bring forward the initiation taken by the Government, the challenges faced and the progress that has been made to bridge the gap between men and women.

Keywords - Sustainable Development Goals, Gender Equality, Women Empowerment

Sustainable Development Goal: Gender Equality

With the aim of securing a sustainable and better future for everyone United Nations General Assembly in its 70th session held on 25th September, 2015 adopted the 2030 Agenda for Sustainable Development which includes 17 Sustainable Development Goals (SDG) and 169 targets that are associated with it. The concept of SDG is global in nature and applies equally to all developed, developing and least developed countries. It also focuses on all dimensions of sustainability that includes social, economic and environmental. Women play a pivotal role in fulfilling all the targets set by the SDG and hence the Goal 5 of SDG that deals with ensuring gender equality becomes of primary importance to every country. Women must guaranteed equality in all spheres through the legal rights of the Constitution but till 2014 only 143 countries guaranteed gender equality while 54 countries had still taken no initiative towards it. Women fall under the most disadvantaged category of people and they are the first ones to suffer in case of a crisis or poverty. This acts as a major barrier to the progress of the society since women have a vital role in the framing of a family, the education of children, in environmental conservation and social change. So, discrimination against women will hamper the entire society.

Analysis of Gender Equality In India: Challenges And Achievements

The Sustainable Development Goals are not binding legally on any country; however, countries throughout the world are expected to frame national laws and policies with the aim of achieving these targets within a span of 15 years, starting from 2015. India is no exception to this and the government of this country has embarked on its journey towards the attaining the Sustainable Development Goals and the 2030 Agenda. It has developed a National SDG Indicator Framework (NIF) with a total of 308 indicators across all 17 targets. Amongst the 17 SDG's India is specifically facing problem with regards to three goals: Ending poverty, zero hunger and gender equality and empowerment of women and girls. Despite several efforts to eliminate discrimination against women and provide equal status to both men and women, India has fallen four places in the Global Gender Gap Index of the World Economic Forum from the year 2018 to 112th in the year 2019-2020.

The patriarchal mindset prevalent in the Indian society has made it difficult to enforce gender equality; preference for male child is still very much dominant in several parts of the country. Discrimination against women continues in the workspace with visible wage discrimination, women earn only 78 percentage of what is earned by men and this holds true in the salaried class of both the rural and the urban areas. Even in agriculture and allied activities women do not get the same position with respect to men. They rarely have any ownership of land, and even if they are working on the land, their position remains limited to helpers or workers in maximum cases (Foundation for Global Governance and Sustainability, 2021).

(Ministry of Statistics and Programme lmplementation, 2021) states in its progress report of 2021 that with the goal to achieve Gender Equality the country has set up 29 targets at the national level and the performance of India on the basis of national indicators set by the country has been as follows :

•In the year 2019, 3.20 lakh women have been subjected to dowry offences. The number has gone up from 2.90 lakh in the year 2015.

•Sex-ratio at birth in the year 2016-18 has been 899.
•The rate of crime against women has been 62.39 per 100000 female population, 28.1 of whom have experienced sexual crimes during the same time frame.
•Unpaid and domestic work have taken up 19.44 % of time for women as compared to only 2.5 % of men highlighting the uneven burden of care giving activities on women even in 2019.
•Only 190 out of every thousand persons in managerial positions are women.
•In the year 2019, only 9 % of candidates contesting elections were women. Though it has increased from 8.19 % in 2014, but still is much below expectations.
•91.67 % of women have exclusive women Self Help Group's in banks linked SHG's.
•The average agricultural wage earnings from casual labour work other than public works in the year 2019 was Rs. 187 for women as compared to Rs. 261 for men

Conclusion

India is a country which is home to 17 % of the world population and the population of the country speaks 121 languages majorly along with 1369 other languages. Given this wide range of diversity implementation of SDG's and ensuring no one is left behind is a huge challenge for the Government of the country. With regards to SDG 5, i.e, Gender Equality, elimination of all forms of violence against women has been prioritized nationally and the Government has introduced several plans to ensure the same. 'Beti Bachao Beti Padhao', 'POSHAN Abhiyan''Sukanya Samridhi Yojana, 'Janani Suraksha Yojana', 'Pradhan Mantri Matru Vandana Yojana' are few of such initiatives. Financial inclusion of women through the 'Pradhan Mantri Jan Dhan Yojana' has been commendable, with 54% of accounts being owned by women. The 'Pradhan Mantri Kaushal Vikas Yojana' aimed at encouraging short-term skill development has seen a 97% increase in the enrollment of women from 2014-18. Since the implementation of SDG's is localized at state level, the states along should come up with practical and effective policies at this trying times and ensure implementation of the same at the grass root level. Unless we as individuals realize our duty towards the nation and help to protect our women and girls from discrimination achieving gender equality will be far from reality.

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Role of Assessing the Educational Aspirations Especially of the Tribal Communities: A Study Through The Light of Devolution and Decentralised Management

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Abstract:

A community holds the authority of decision-making in the devolution and decentralised management. This type of management purely focuses on the development from the local level. On the other hand, educational aspirations are the source of motivation to get educated. So it should be essential responsibility for the local community of any region to properly-known the educational aspirations of the population and chalk out the expectations from the education system of that society. In India, the literacy rate of the tribal population is very low. If the local community of a tribal-dominated area assesses educational aspirations to identify the educational needs of the population and reform educational opportunities then it will be a successful devolution and decentralised educational management. Based on the nitty-gritty of the devolution and decentralised management, the researchers want to explain here the role of assessing educational aspirations especially of the tribal communities as the base of this educational management system.

Key words: *Educational aspiration, Devolution and decentralised education management, and Tribal community.*

Introduction:

Education gives the power to cope up with the regular changes in society. It is the process of adjustment. Formal education secures the adjustment of individuals in a planned way. Experiences, understanding, and awareness about this formal education form the educational aspiration of an individual. On the other hand, aspirations set the goal of a person about willingness to which an individual wants to achieve. The educational aspirations level of an individual is guided by the schema and expectations from the system. The aspirations motivate individuals to get educated in life. Education gives the power to cope up with the regular changes in society. It is the process of adjustment. Formal education secures the adjustment of individuals in a planned way. Experiences, understanding, and awareness about this formal education form the educational aspiration of an individual. On the other hand, aspirations set the goal of a person about willingness to which an individual wants to achieve. The educational aspirations level of an individual is guided by the schema and expectations from the system. The aspirations motivate individuals to get educated in life. So there is a need of ascertaining educational aspirations to manage the educational facilities in the society.

India is a democratic country. The basic doctrines of democracy are equality, liberty, fraternity and justice. It advocates the participation of every citizen in decision making process for wellbeing of society as well as country. The nation introduces the process of devolution decentralisation management system in the field of educational management to foster democracy. Democratic participation of the community is the primary motto of this management system. In this system, any community unfurls its needs and willingness, and they establish a new pattern of the education system which is fruitful for them as well as society.

Tribal communities of our country are backward in terms of participation in modern society and educational facilities. They are happy with their primitive cultural practices and taboos. Formal education cannot spread its nets too much within these communities. They are aware of ongoing educational processes in the country. Though different governments and non-government initiatives make them knowledgeable about different facilities and policies in the fields of education and jobs, yet they are failed to connect themselves with the formal educational process. The main cause behind the problem is that the ongoing educational programme is not according to their aspirations and needs. So their enrolment in the field of education is very negligible and the literacy rate is low in the country. The literacy rate of STs in our country is only 58.96% according to the Census of India, 2011 which is below the national average (74.04%).

Theme:

Aspirations set strong desires to reach something high or great which motivate for better achievements (Sherwood, 1998). Aspirations drive individuals to do better and be better than they presently are. These

also represent what they do not wish to become. Briefly, aspirations are desire of an individual to obtain a status, objective or goals such as particular occupation or level of education (Kao and Thompson, 2003; Mac Brayne, 1987). Sirin, Diemer, Jackson and Howell (2004) defined aspiration as "the educational and vocational dreams that students have for the future." Aspirations are a cognitive state that motivate or drive young people to strive for academic success (Khoo and Ainsley, 2005). Educational aspirations relate to how much value individuals assign to formal education and how far they settled up to pursue it.

As social beings human beings are live in socio-cultural boundaries. These socio-cultural boundaries have complex tools and mechanisms to creat tendencies, habits, beliefs, sentiments, norms, values, ideals and stereotypes which in turn play crucial role to determine and shape individual's adjustment and level of aspiration in any given condition. Educational aspirations are influenced by family backgrounds, socio-economic status, living areas, and neighbourhoods (Stewart et al., 2007).

The research works of Ronald Edmonds, Lawrence Lezotte, and Wilbur Brookover (1979) found that in school, parental involvement and support, collaborative collegial relationships, school autonomy, and flexibility make a difference in children's intellectual development.

So, there is a great role of community to determine and assess the educational aspirations of an individual. Collectively aspiration levels of individuals of a particular society give an idea about experiences of advancement in the field of education of the population. Actually realistic educational aspirations are the educational needs of an individual. Careful representations and integrations are the main roles of the community to achieve the aspirations level of the individuals and develop new aspirations level of them based on the new experiences in the field of the educational facilities.

Really, Assess and manage the aspirations level of individuals and utilize the resources in the field of education is a significant task. The proper utilization of human and material resources in an educational institution is discussed under the heading of Educational management. In India, school education comes under the concurrent list of the Constitution (Seventh Schedule, Article 246, List III – Concurrent List, The Constitution of India). So the management and the administration process always follow the federal setup where both the Central and State governments perform their duties accordingly for the smooth running of the educational process under their controls. The National Policy of Education (1986) and the Revised Plan of Action (1992) initiated decentralisation process of management in the field of education to promote a spirit of autonomy for educational institutions. The 73rd and 74th Amendment of the Constitution (1992), the Sarva Shiksha Abhiyan and recently the Right to Education Act-2009 also support the decentralised process in the management system of education.

Generally, decentralization refers to "the transfer of decision-making authority, responsibility and task from higher to lower organizational levels or between organizations" (Hanson, 1998). Decentralization management in education is a complex process. But decentralisation trends in education appear to be democratic and a feature of open societies by providing the communities with an opportunity to participate in educational transformation and social change through the reflection of managerial and conservative culture of efficiency.

Based on the degree of the transfer of authority Roudinelli et. al. (1981) classified administrative decentralisation in four different categories. These are Deconcentration, Delegation, Devolution and Privatisation. In India, educational decentralisation system is mainly Devolution type (Huong Thu Le, 2010). Devolution decentralisation denoted by the transfer of responsibility and authority for decision making, finance and management to the lower level of government such as to municipalities or provinces and transfer the power and responsibilities at sub-national levels. Activities of those units are substantially outside the direct control of central government (Bray & Mukundan, 2003). Functions of the local governments are not merely as subordinate administrative units in the political system of which they are a part, but they mutually perform the interactions with other units of government structure (Sherwood 1969).

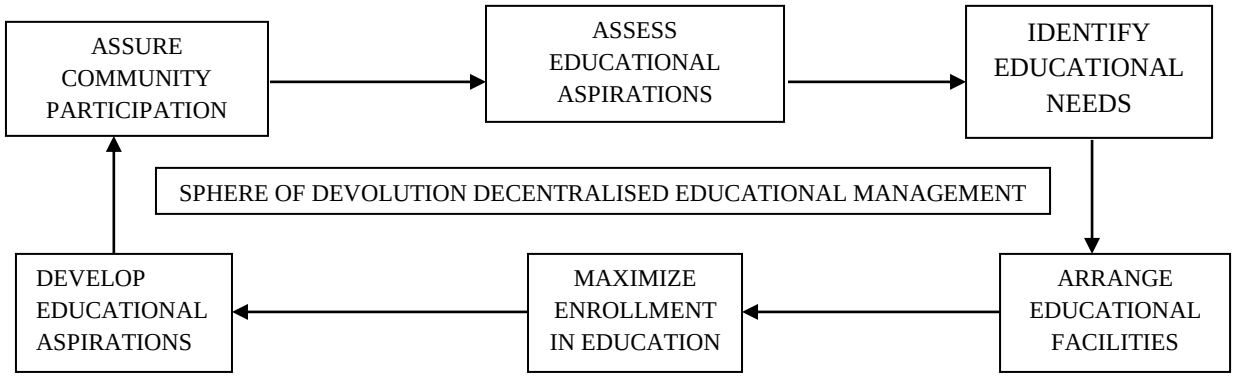
Apparently, local governments have clear and legally recognized geographical areas within this boundary they exercise a distinct authority to provide services. The organisations are bounded to satisfy the needs of the local citizens and also local citizens have some influence over the organisation as these are the government units. In an education system, local institutions and agencies can better understand local priorities, problems, and solutions. So, their responsibilities are to increase equal access to education in a democratic way through creating an inclusive setup which would cater to the local needs.

Through the decentralisation and devolution of authority to local communities assure autonomy, flexibility, productivity and accountability. It concentrates on a more effective and less bureaucratic decision-making process in the field of educational management (Gamage et. al., 2005). J. Zajda and D. Gamage (2009)

conducted a comparative analysis of SBM and academic achievement in the USA, Britain, Spain, Hong Kong, the Czech Republic, South Africa, Australia, New Zealand and Thailand. They announced that decentralisation and school autonomy are likely to produce educational improvement. The authors concluded that the success of decentralisation models can be judged through the light of definition and practice of access, equity, and social justice. They argued that these criteria affect the overall patterns of equality of educational opportunities and social stratification in the global culture.

India is the second largest tribal concentrated country in the world having 427 main tribal communities and they occupied only 15 percent of the total geographical area of the country. Their habitations are mainly in forests and hilly tracts. They are identified as the aboriginal inhabitants of our country who use their own dialect which is in vogue in their region. The tribal communities have remained outside the realm of the general development process. The indigenous people live a simple life based on the natural environment and have their own distinctive cultural practices. They have low socio-economic conditions due to various factors like geographical isolation, incapacity to satisfy basic needs, lack of proper health facilities, lack of control over resources and assets, lack of education and skills, etc.. Particularly the tribal communities are backward in the fields of education and economy. They have a strong sense of distinctiveness that separates them from non-tribals. The main problem in society is that there is no proper awareness and understanding of the tribal people and they have been exploited by the dominant sections of Indian society. In the Indian constitution, Article 46 unfolds that "The State shall promote with special care the educational and economic interests of the weaker sections of the people, and, in particular, of the Scheduled Castes and the Scheduled Tribes and shall protect them from social injustice and all forms of exploitation." The tribal people are very simple and sensitive, but their problems are to some extent complex. Tribal possess a variety of culture and tradition related to nature which is the need of the hour to preserve and retain for beneficial use in future in the human society.

To bring educational opportunities based on the needs and preservation of cultural heritage, it is mandatory to represent their voices and willingness from the tribal communities to the government. Devolution and decentralised management system in education promotes community participation in the field of educational management systems. In this system, participating community assesses the educational aspirations of the tribal villagers; based on the aspirations they formulate some plans to increase the educational enrolment of that locality. Proper planning and implementation based on local aspirations will increase the enrolment in the field of education and further it will work as a guiding factor in the development of aspiration of the tribal population in the future.



Thus Devolution decentralised management of education in a tribal-dominated area increased capacity of decision making at the local level. Connecting with the quality decisions making and positive involvement, it has been hoped to improve the educational delivery system in that area and will increase the amount of input and its quality in the schooling. Programmes and policies designed and undertake at this level are guaranteed to be relevant and also can reduce backwardness in access to quality education of the tribal population.

Conclusion:

In India, devolution resulted from the demands of ethnic, local and regional groups for greater autonomy and or from the inability of the central government to resolve regional or local problems. Introduce of true devotion decentralized management process of education in any tribal-dominated area will be a solution to educational backwardness. To reduce the problems related to school enrolment, bring interests to the ongoing educational process and form a curriculum related to local as well as national and international

practices, it is necessary to assert the educational aspirations of the population within a community. After Ascertainment of aspirations, the community of a tribal-dominated area will raise their voice and will involve for overcome the shortness of educational enrolment through proper decentralised planning and management process. Today, when the process of education gives priority to child centrism then priority must be given to the aspirations of individuals in the sphere of educational opportunities. If we are able to meet up the problem related to the low literacy rate of the tribal population within the small boundaries, in the future, it will eradicate the low literacy problem in the country as a whole. In this regard Devolution decentralised management process will take a pivot role.

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Accident Alert System

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Abstract- The rapid rise of technology and infrastructure has made our lives easy. In the high demand of automobiles has also increased the traffic hazards and road accidents. life of the people is under high risk. In India there is very high rate of accidental death rate due to lack of medical help. There is also we observed the deficiency of alertness of accidents to the respective accident care departments / relatives. Our project (Idea) give proper information to the Owner, Relatives, Police Station, Nearest Government Hospital, Ambulance to save the life of Injured Persons in accident.

Keywords- Accident Alert System.

Introduction- We have collected some data from various resources which gives us the fearfulness regarding with accidents. Numbers in the following tables are really horror. We observe day by day the number of accidents is increasing. In the same lot of peoples lost their souls. Some are gating permanent disability. But if we can alert the proper lifesaving systems, we can decrease the death as well as permanent disabilities. In India the number of peoples martyrized on border till date are comparatively to much less than the peoples died or disabled in the accidents of one year Following data gives us the terrible information about the Accidents. [1]

Parameter	2016	2017	% Change
No. of Road Accidents	480652	464910	-3.3
No. of Deaths	150785	147913	-1.9
No. of Persons Injured	494624	470975	-4.8

No. of Deaths in Accidents across India[2.]

Year	No. of Deaths
2018	151420
2017	147910
2016	150790
2015	146130
2014	139670
2013	137570
2012	138260
2011	142490
2010	134510
2009	125660

1. In India there are number of peoples dies due to unavailability of Emergency Medical Help when they meet an accident.
2. 377 people dies every day
3. 20 Children under Age of 14 dies per day
4. 400 fatalities and 411 peoples die per day
5. Altogether 30,084 Accidents were reported in Maharashtra Between January and November 2019. In which 11,387 people were killed and 26,428 others Injured.
6. In 2016 reported Accidents 4,80,652 and in it 1,36,071 Fatal Accidents.
7. In Most of the Accidents peoples were killed due to they don't get Emergency Medical Help.
8. In some cases, injured people get help but it's too late
9. To Overcome such cases, we have made one of the Alert System. It alerts Ambulance, Police Station and also to the responsible person regarding with that Vehicle.
10. This system gives very instant Calling / Messaging to Ambulance, Police station or other family Member within 10 to 15 seconds.
11. When any Four-Wheeler or Two-Wheeler Vehicle meets with serious accident, then this Device or System gives instant messaging or calling to Ambulance, Nearest Police Station and any family member by which, those peoples injured during accident, gets instant Emergency Medical Help.
12. In some Cases, accidents happened in out of cities area or out from any kind of Facilities. So, such cases This system is Helpful to giving medical help.

Work out: - The idea / system (We have actually run this system by using the mobile in vehicle, demo purpose)

For to develop this system we can use the various types of sensors their output is given to the microcontroller system. As the Collison takes place with in fraction of second this system activates and message / calls to the above-mentioned agencies. There are two modes of operation 1. Running / stopping mode: - there are the various possibilities of accidents number of times two or more than two vehicles are in running or one vehicle is stopped and other comes and dash / stroked it or due to fault in machine or the mistake of the driver / operator the vehicle collides with the road side obstacles or at the turn vehicle leaves the road and thrown in the valley / pond / well etc. 2. Traffic mode: - when vehicle is in traffic and traffic is blocked for sufficient time it will alerts to the nearest traffic controller agency. It helps to save the time. Different programs are given to the microcontroller chief (IC)

In all above possibilities the programs are given to the microcontroller chief for to alert the various rescue agencies. In the same programming location and nearest route should be activate. The mobile numbers of the above-mentioned agencies are given at the time of programming. After accident automatically these ringing and alert the respective rescue teams and relatives. This system reduces the time delay and victims get the help as early as possible so possibilities of to prevent the deaths or permanent disabilities increases.

Conclusion- Our system is helpful to reduce the death rate and permanent disabilities in accident.

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A Geographical Study of Spatial Variation in Rural-Urban Sex Ratio in Sangli District, Maharashtra State

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Abstract:

*Sex composition is a population refers to balance between male and female in any population.Sex composition is one of the significant demographic characteristics of population. In any population, distribution by sexes is generally unequal. The existing sex ratio in any area is determined by three basic factors. These are sex ratio at the time of birth, differences in the mortality rates of the two sexes, at different ages and differences in the migratory ethos of the two sexes (Cleark, 1960). The present study aims to examine the spatial pattern and fluctuation of rural urban sex ratio during 2001-2011.For the purpose of present study tahsil has been taken as a basic unit of investigation. The period selected for the present study is two decade from 2001-2011. The proposed study is entirely based on secondary data. Present analysis shows that males and females are unequal and also tahsil wise magnitude of rural-urban inequality varies in the study region. Sex ratio in general and rural-urban is computed formula and mainly **FRUSR** is method using for the Changing difference value between fluctuation in Rural-Urban Sex Ratio in 2001-2011. In fact, present rural –urban sex ratio shows opposite situation in 2011, compare to 2001 census. In 2001, we found rural sex ratio is higher than urban sex ratio, while as in 2011, rural sex ratio is higher than urban sex ratio.*

Keywords: *Spatial variation, Sex composition, Sex ratio, Fluctuation, FRUSR,*

Introduction:

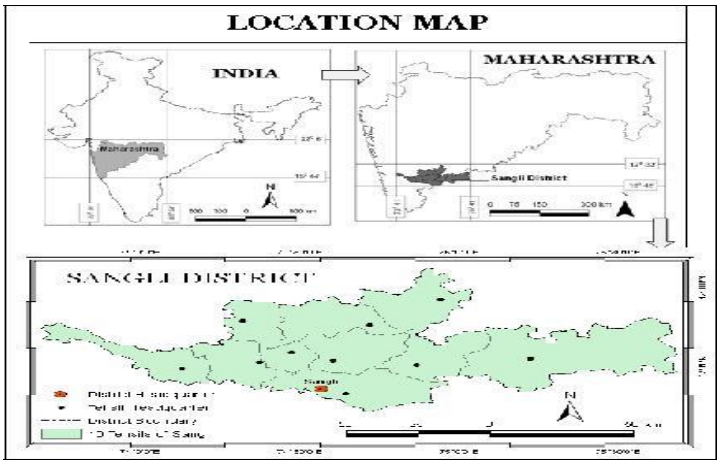
Sex ratio is an important social indicator which defined the number of females per thousand people. Sex ratio has great importance in the study of population because it is closely related to socio-economic condition of area. Sex ratio also influences the volume and nature of social need and employment and consumption pattern. Sex composition also influences fertility potential of the population, the labour participation and the types of jobs. The variations in sex ratio are to a large extent determined by three factors such as, sex ratio at birth, differentials in mortality rate in two sexes and sex selectivity among migrants. Sex composition is one of the significant demographic characteristics of population. The separate data for male and females are important for various types of planning and for the analysis of other demographic characteristics such as natulity, mortality, migration, marital status, economic characteristics etc. In general, highest decline in sex ratio is recorded in urban areas. Drastic decline is observed in the urban areas of Harayana, Gujrat and Utter Pradesh, while, heavy loss is found inboth rural and urban areas of Punjab. Similarly in Maharashtra also, the magnitude of female child loss is higher, in rural areas than the urban areas. In the Indian context, a sex ratio of 950 and above can be considered as favourable. As per 2011, rural sex ratio is 934, while urban sex ratio is 936. Which shows interestingly rural – urban sexratio remain adverse to female but, sex ratio is decreasing very rapidly in rural areas whereas it is slowly increased in urban areas of study area.

Materials and Methods

The Study Area

The Sangli district is situated in western part of Maharashtra. This district consist Eight Tahsils covering 731 villages. The total area extend is of 8572 sq. km. extending from $16^0$45' to 17^o 33' north latitudes and 73^o 42' to 75^o 40'east longitudes. It is bounded by Solapur and Satara districts in the North, Vijapur district in the east, Belgaum district in the south and the Ratnagiri district to the West (Fig.1).the area presents diversified physiographic with hilly region dominated by leeward slopes of Western ghats in the west & alternate valleys &

Fig. 1. Location Map



ridges culminated gradually into plateau in the east. The soils vary from laterite patches in the west through deep medium-black alluvial of the river plains in the center and poor gray soils in the east. The climate of the district is generally dry. In general the rainfall was decreases from west to east from 4000 to 500 mm. From central part eastward the region faces severe drought conditions. The average annual rainfall of the district is 618.66 mm, the temperature ranges from 14.08 C to 38.4.The district is divided into the administrative tahsil:Jat,Tasgoan,Kavathe
Mahankal,Shirala,Walva,Miraj,Atpadi,Kadegoan,Khanapur,Palus

Objectives

1. To Examine the spatial pattern of rural and urban sex ratio in the study area.
2. To Study Changing difference Value in rural and urban between Sex Ratio in Study area. (2001-2011).
3. To Analysis the fluctuation of rural-urban sex ratio during 2001 to 2011.

Research Methodology

The present study is entirely based on secondary data which is collected form Socio-Economic Review and District Statistical Abstract of Sangli, Census of India, Census Handbook of Maharashtra and Sangli District, District Gazetteer and also concern information is collected from various published thesis, articles, books and journals etc.The Study Region in tahsil has been taken as a basic unit of investigation for study purpose. The period selected for the present study is from 2001 to 2011. The collected data will be processed and presented by using appropriate quantitative and cartographic techniques. Sex ratio in general and rural-urban is computed and mainly FRUSR is method using for the changing difference between in Rural-Urban Sex Ratio in 2001-2011 by given using following formula

Sr .No	Name of Tahsil	2001		2011		Changing difference Value between 2001-2011 (FRUSR)	
		Rural	Urban	Rural	Urban	Rural	Urban
1	Shirala	1019	1067	1016	-	-3	-
2	Walwa	938	936	938	945	0	9
3	Palus	930	-	938	-	8	-
4	Khanapur	1024	935	1037	947	13	12
5	Atapadi	986	-	998	-	12	-
6	Tasgoan	972	924	969	950	-3	26
7	Miraj	939	945	945	969	6	24
8	Kavthe Mahankal	962	-	971	-	9	-
9	Jat	948	-	945	-	-3	-
10	Kadegoan	984	-	994	-	10	-
	District Total	**962**	**943**	**965**	**963**	**3**	**20**

$$1)\ \text{Sex ratio} = \frac{Pf}{Pm} \times 1000$$

Where, Pf= Total No. of females, Pm =Total No. of males

2) FRUSR = Each Tahsils (2011 Rural -2001Rural) +/- (2011Urban -2001Urban)

Where, The fluctuation of rural-urban sex ratio +/- Positive /Negative value

Results and Discussion

Spatial pattern of rural-urban sex ratio (2001 -2011)

It was very interesting to note that the total district Sex ratio was increasing in rural area from 962 in 2001 to 965 in 2011, While as it continued to in urban area from 943 in 2001 to 963 in 2011 in the study area

Table 1. Tahsilwise Rural-Urban Sex Ratio in Sangli District-2001 to 2011

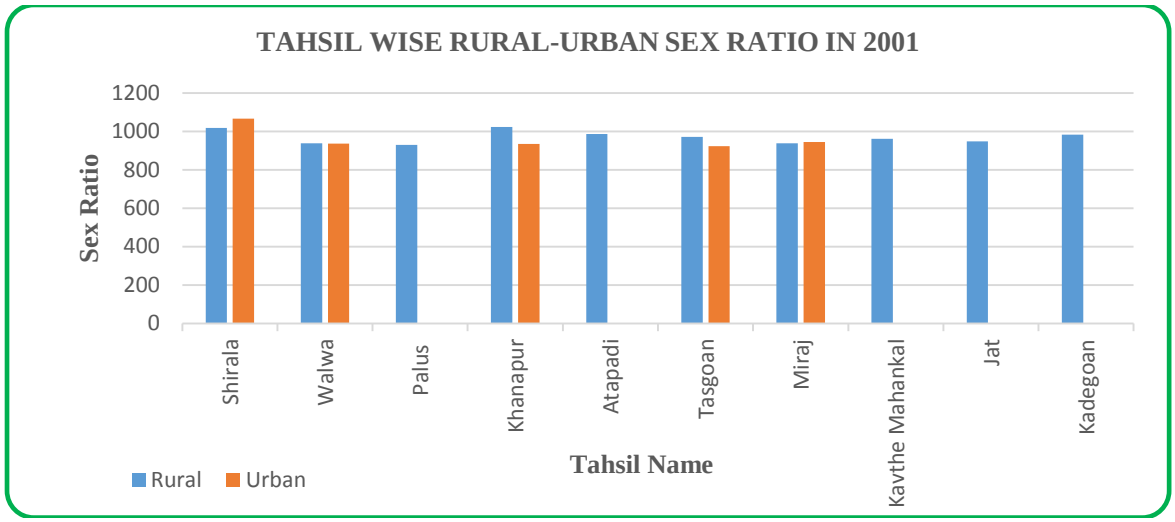
Source:

1) Socio-Economic of Abstract, Sangli Disrict-2001 and 2011.

Spatial Pattern Of Rural-Urban Sex Ratio (2001)

Table No.1 and Fig. No.2 indicates that the tahsil wise rural-urban sex ratio differential in the study region. As per 2001 census, rural sex ratio is highest in Khanapur tahsil (1024) while, Palus tahsil shows low rural sex ratio (930) as compared to district average. Rural sex ratio is Higher than the Urban sex ratio of the study region. Maximum Urban sex ratio was observed in Shirala tahsil and minimum in Tasgaon tahsil i.e. 1067,924 respectively as compare to district average.Tahsil wise rural –urban sex ratio differentials show that, 06 tahsils in above district average whereas 04 tahsils in below average with respect to rural sex ratio. Rural sex ratio is high in the tahsils such as, Khanapur (1024), and Shirala (1019).because of the scarcity of water, uneven topography, tribal area and less fertile soil are the major geographical factors responsible for the less agricultural development. It is observed that sex selective out migration taken place to seeking jobs leads to high rural sex ratio in the tahsils. Urban sex ratio differentials in the study region shows that, 02 tahsils in above district average, whereas 08 tahsils below the average. Low urban sex ratio is observed in tahsils Viz. Walwa (936),Khanapur (935) and Tasgoan (924) Remaining tahsils such as, Shirala (1067),Miraj (945) show high sex ratio it is Predominantly agricultural irrigated developed tahsils, Male out migration for employment purpose from tribal area and agriculturally less developed tahsil towards agriculturally developed tahsils also because of large cost of living in urban areas, people who migrate to urban areas keep their spouses in villages leads to sex ratio is increasing in rural areas and decreasing in urban areas.

FIG. No. 2. TAHSIL WISE RURAL-URBAN SEX RATIO IN 2001

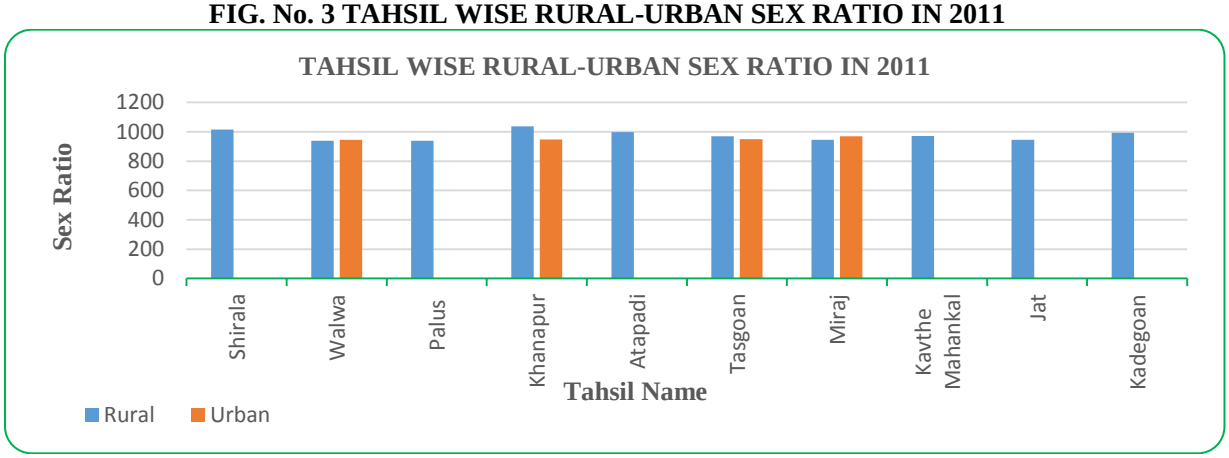


Spatial Pattern Of Rural-Urban Sex Ratio (2011)

In 2011, rural sex ratio is highest in the Khanapur tahsil (1037) while, Walwa, Palus tahsils shows lowest rural sex ratio (938), as compared to district average. Rural sex ratio is Higher than the Urban sex ratio of the study area. Maximum Urban sex ratio was observed in Miraj (969) tahsil and minimum in Walwa (945) tahsil. Respectively as compare to district average. Fig.No.3 shows rural-urban sex ratio variation in 2011.Rural-urban sex ratio shows that,06 tahsils in above district average whereas 04 tahsils below average with respect to rural sex ratio. Rural sex ratio is high in the tahsils such as, Khanapur (1037),Shirala (1016), Low sex ratio is observed in tahsils Viz., Walwa, Palus (938), and Jat, Miraj (945), Tahsil wise urban sex ratio differentials shows that, 01 tahsils in above district average whereas,09 tahsils below the average. Low urban sex ratio is observed is Walwa (945), tahsil. Remaining tahsils such as, Khanapur (947),Tasgoan (950), This reason because of the grater preponderance of males in rural to urban streams of migration (Singh, 1988). In the study region sex ratio reveals that urban sex ratio is greater than the rural sex ratio in some tahsils, because of both male-female rural-urban migration increases in last decade. In fact, in the study region in the rural-urban migration males out number female, but the rate of rural female migration towards urban areas increases rapidly than the males. It is also observed in the study region that positive relation in between literacy and migration of female. In 2011, female literacy rate increases by higher rate than the male literacy, leads to increase in rural to urban migration of both male and females for the purpose of education and employment.Present analysis denotes declining sex ratio is the serious problem of the study region. The process of urbanization, migration pattern and other socio-

economic factors affecting on sex ratio, in which Migration is the one of the important factor, which is affecting on imbalance in sex ratio in urban and rural areas.

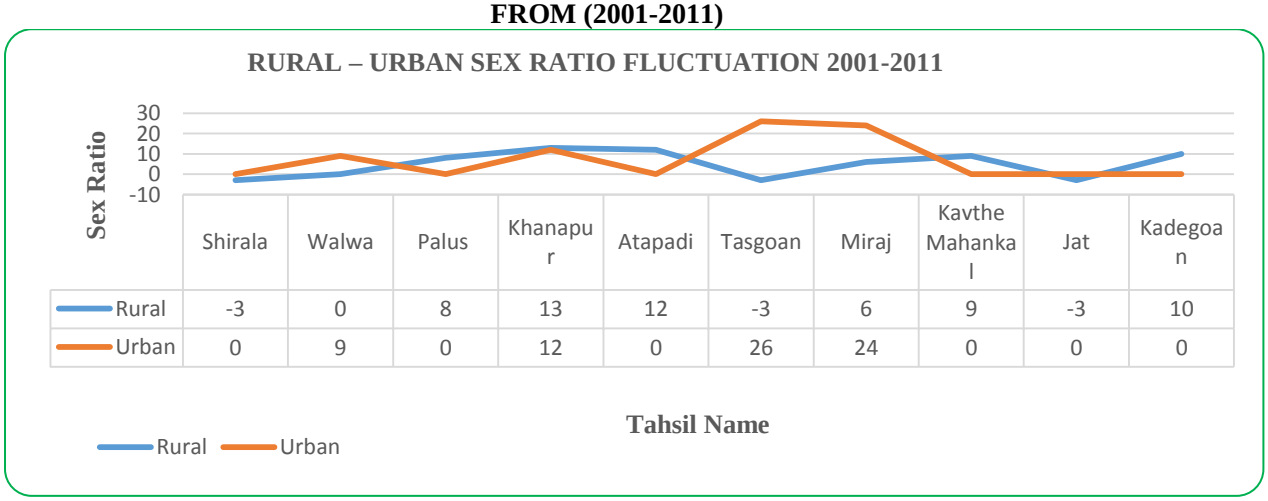
FIG. No. 3 TAHSIL WISE RURAL-URBAN SEX RATIO IN 2011



Rural –Urban Sex Ratio Fluctuation From 2001 To 2011

Fig. No. 4 shows rural-urban sex ratio fluctuation in between 2001 to 2011. In fact, in Sangli district we found drastic changes in general and rural-urban sex ratio in last decade. Rural sex ratio shows tahsil wise Positive fluctuation in all the tahsils except out of Palus (08), Khanapur (13),Atpadi (12), Miraj (06), Kavthe Mahankal (09), and Kadegaon (10) in the study region.The lowest negative fluctuation in rural sex ratio is exist in Shirala, Tasgoan and Jat (-03) tahsils. Positive Fluctuation in Urban sex ratio is observed in all the urban centers all tahsils positive fluctuation exists. Highest Positive Fluctuation in urban sex ratio is observed in Tasgoan tahsil (26), followed by positive fluctuation found in the tahsils such as Miraj (24), Khanapur (12), whereas lowest positive change found in the Walwa tahsil (09).

FIG. NO. 4 RURAL – URBAN OVERALL SEX RATIO FLUCTUATION IN SANGLI DISTRICT FROM (2001-2011)



	Shirala	Walwa	Palus	Khanapur	Atapadi	Tasgoan	Miraj	Kavthe Mahankal	Jat	Kadegoan
Rural	-3	0	8	13	12	-3	6	9	-3	10
Urban	0	9	0	12	0	26	24	0	0	0

Source: Computed by authors

High and Positive Fluctuation in urban sex ratio is observed in Tasgoan tahsil due to socio economically advanced, industrial and business center and source area of employment. The higher degree of urbanization and consequent lower proportion of joint families in western Maharashtra; as a result of development of non-agricultural activities, where large joint families are not considered an asset (Sawant and Khan,1982).Along with socio-economic development and rapid urbanization in the study area, women work participation rate increases in secondary and tertiary activities such as govt. services, private sector, banking, insurance, industries and other services etc, it leads to more rural out migration of educated females towards urban centres in the study region. It is observed that sex ratio of workers and migrants affecting on the rural-urban sex ratio of the study region. Analysis shows generally sex ratio decreases in urban area, while increases in rural area. It is observed that inequality in between males and females and also tahsil wise magnitude of rural urban inequality varies in the study area. As per 2011, rural sex ratio is

965, while urban sex ratio is 963 .Which shows interestingly rural-urban sex ratio adverse to female but, sex ratio is increasing very rapidly in rural areas whereas it is decreased in urban areas of study area.

Conclusion

1.In this research topic in.Sex selective out migration especially male for employment purpose from agriculturally less developed tahsil towards the agriculturally developed and urbanized tahsils leads to sex ratio is increasing in rural areas and decreasing in urban areas in 2001.Whereas female migration towards urban centers due increasing socio-economic status of female in urban area, availability of various educational and employment opportunities leads to sex ratio increasing in urban areas in 2011.

2.It is Clearly shows Rural-urban sex ratio fluctuation interestingly rural-urban sex ratio adverse to female but, sex ratio is increasing very rapidly in rural areas whereas it is slowly decreased in urban areas of study region during 2001 to 2011.

3. As per 2001 census, rural sex ratio is highest in Khanapur tahsil (1024) while, Palus tahsil shows low rural sex ratio (930) as compared to district average. Rural sex ratio is higher than the Urban sex ratio of the study area Maximum urban sex ratio was observed in Shirala tahsil and minimum in Tasgoan tahsil i.e. 1067,924.

4. In 2011, rural sex ratio is highest in the Khanapur tahsil (1037) while, Palus,Walwa tahsils shows lowest rural sex ratio (938), as compared to district average. Maximum urban sex ratio was observed in Miraj tahsil (969) and minimum in Walwa tahsil (945).

5. High and Positive Fluctuation in urban sex ratio is observed in Tasgoan tahsil due to socio economically advanced, industrial and business center and source area of employment.

6. Finally in this research topic which Rural-urban sex ratio is adversed to female, not only because of sex selective migration, strong son preference and couples are moving towards a smaller family size and wants atleast one or two sons, so they take the help of modern technology to detect the sex of foetus and it is observed that the proportion of female workers and migrants affecting on the imbalance in rural urban sex ratio

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Geographical Changes Always Effect On Water Bodies, Oxygen Demand and Different Varieties of Bivalve *Lamellidens Marginallis* Studies at Mahan Dam Katepurna Sancturie

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Abstract

Geographical effect seen on the *Lamellidens marginallis* serving in dam water Mahan, The year 2020 each month average seen its morphological character change of *Lamellidies marginallis* here observation found minutely changes each season. The size and shape bodies minutely rise found in this research in each year. Here studied samples at different places of mahan dam water sites. Oxygen demand present changes zoo and plankton dependent shows variation each season. This effect shows in various spots of sampling taking and gives clearly results of this studies area.

The oxygen and nitrogen ratio in Dam Mahan water definatly affected by showing in the studied and also effected different species of *Bivalve Mollusca, lamellidens marginallis* its shell shows morphological observation given best result by environmental issues.

Key World: Geographical changes, Dam Fresh water, *Lamellidens marginallis*.

Introduction

Dam Mahan fresh water *Bivalve Mollusca, lamellidens marginallis* in the order monophyletic has a different lifecycle. The environmental effect reproduction in lamellibranches studied by many investigators and reviewed by Begum M, Ismail M (1990), Alaka AP *et al.,* (2013), Yusufzi SI, Singh H, Shirdhankar MM (2010) and Hameed PS, Mohan AI (2006). Vijay RS, Mandal A and Pandey A (2018)stated that the variety of pollutants and have a dramatic effect on the reproduction, physiology and survival of the species in its drafting change its environment.

In general, *Bivalve* commonly found in freshwater resources like reservoirs, dam, rivers, lake and pond in Akola district. The reserch found growth and survival in the dam water *lamellidens marginallis* the best role play by describing statistical relationship. Seetharamaiah T, Anupama NM and Prabhavthi N (2005). The Studies report shows the range between more near 15 individuals in it is found in high population densities in water bodies Kumar S *et al* (2011).

Temperature is a dependent geographical changes directly affecting the physiological and behavioral characteristics of the water bodies zoo-phyto life breeding are somehow important WHO (1989), Dongre and Dongre (2012), Gaikwad and Kamble (2014) experimental bases within oxygen consumption and body weight in unfed and starvated *Mytilus edulis.* Respiration of many other bivalve species was also studied under various experimental conditions (Newell and Pye 1970, Bayne 1971, 1973, Kennedy and Mihursky 1972). According to the, Widdows (1989), experiment on the base of dispersion and oxygen uptake under anoxic condition of *crassostrea virginica.* Slatina (1991) studied the daily rhythms of oxygen consumption in the *Mytilus galloprovincialis.* According to the author oxygen consumption is dependent on various environmental factors and endogenous regulation of reproduction which are main synchronizers of the rhythm. Further photoperiod was shown to be the important factor responsible for the physiological processes and temperature usually co-operates with endogenous components and light. Furthermore reporting Golterman HL, Clymo RS (1978). The physico-chemical parameters of water i.e. Temperature, pH, hardness and dissolved oxygen contents were also measured. The rate of oxygen consumption of individual animal was determined according to Wrinkler's modified method

Another Observer researcher Jadhav et al, ((2012) made relation between rate of respiration and different sized animals with the availability of oxygen in *Musculium partumeium.* Among the Indian freshwater bivalves, the respiration of *Parreysia corrugate, carbicula regularis* (Subba NV (1989) and Indonaia caeruleus Jadhav *et al.,* 2013, have been adopting knowledge taken out the effect of several environmental factors. While observing the researcher studies and the effect of various pollutants, including the pesticides and heavy metals Akarte (1985), Muley)1988), made on attempt to study the seasonal differ each other in

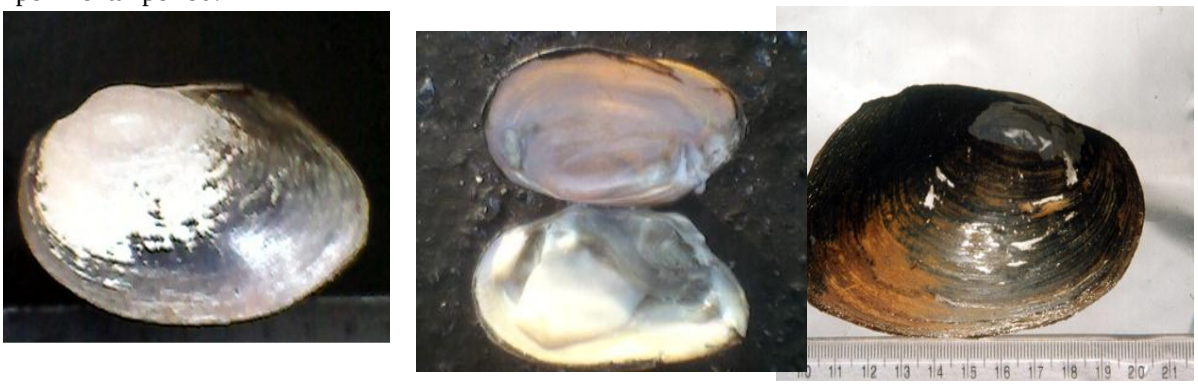
the respiration of freshwater bivalves, *Lamellidens corrianus, Lamellidens marginalis* and *Indonaia caerueus* exposed and unexposed to pollutants. Similarly, Kulkarni (1987) on *Indonai caeruleus* on *Lamellidens marginalis* while studying the effect of cerebratectomy on some aspects of physiology and reproduction of the above bivalves made on attempt to understand the seasonal variations in the respiration Vernberg WB and Venberg FJ (1972). These studies shows minutely differ insight into the evolution in the respiration of the area of population freshwater bivalves so as to statistical data aspects like nutrition, parameters and reproduction in relation to day length lunar cycle of the frequent recurring changes in the external environment and endogenous regulation. Only one study of Bruce, J.R. (1926) on *Indonaia caeruleus* from lentic environments outcome which gives some information on the seasonal respiratory rates of freshwater bivalves from permanent lotic environment of Maharashtra state.The review of litreture showed comparatively very little attention being paid to study the effect of size on a rate of oxygen consumption of Indian bivalve molluscs.

Materials And Methods

The Freshwater bivalve molluscs, Lamellidens corrianus (Lea) were collected from the banks of Morna River, at Mahan, Taluka Barshitakli 20 km away from Akola city. The adult bivalve 65to 66 mm in shell length were selected for laboratory experiments. After collection of these bivalves, they were immediately brought to laboratory; the shells were brushed and washed with fresh clean water to remove fouling biomass and mud. The animals were maintained for 24 h in a large aquarium containing aerated reservoir water in laboratory conditions. The water was renewed twice in a day at an approximate interval of 12-13hrs.

After 24h laboratory acclimatization animals were kept in each of the 2 aquaria on March during summer, see to the effect of rise in temperature. Out of two groups, one served as control of normal laboratory temperature and other is experimental at 30°C. The temperature of water from control groups so 28.5°C - 31°C on March during summer. The experimental temperature of water 25.0°C-26.0°Con March during summer was 30°C. Temperature of the water was controlled by using THEMO-STAT (Automatic RENA – France) Fixed at the bottom of the aquarium. In experimental aquarium care was taken that to keep the animals away from the Thermo Stat. The water of appropriate temperature the experimental control were renewed at every 12-13h and before renewing the water, mortality, if any and also behavior were also recorded. The physiochemical characteristics of water used during the above experiment were determined (APHA et.al., 1985).

The temperature of the water was recorded twice in a day, whereas pH, total Hardness in terms of carbonate and dissolved oxygen contents were determined after every 24hr days throughout the experimental period.



Lamelliens marginalis **Shield Photo length 10.50 cm** **Shield Photo length 11.05 cm**

Figure 1: Size dependent variation in the rate of temperature, oxygen consumption, freshwater bivalves, during changes taken palace in various season at Mahan Dam Katepurna Santurie.

Results

Data collected from 20 spots were used to determine the instently and nere as growth found with initial and final values including shell length size and total body weight as below resulting discussion. Physico-chemical characteristics of water used in the experiments are given in the table-1. During the experimental period the temperature of the water is fluctuated from 25.0 – 26.0°C and March during summer. It was– 26.0°C, 16.0°C , 36.0°C respectively.tap water,control water,experimental water(low

temprature) The pH of t– 26.0°C he water was 7.5,7.4, and 7.7 on 2nd, – 5th, and 8th respectively. Hardness of water in terms of carbonate was 212, 222 and 218 ppm on 2nd, 5th, and 8th day. Results of the rate experiments on 2nd, 5th and 8th day were shown in table – 1 , 2 and table – 3.

Similarly the dissolved oxygen was– 26.0°C 6.4618 ml/lit, on 2nd, 6.5428 ml/lit, on 5th, and 8th, day. Throughout the experimental period pH values of water ranged between 7.4 to 8.1, hardness 212 to 226 ppm and dissolved oxygen content fluctuated from 6.4618 to 6.5428 ml/lit. On March during summer,the heart rate was (23.50 ± 0.5773 beats/ min) in control and (28.25 ± 0.9574 beats/ min) in rise in temperature on 2ndday. While the rate in experiment (26.75 ± 1.7320 beats/ min) on 5thday and it was (24.25 ± 0.9574 beats/ min) in experimental and (21.75 ± 1.2583 beats/ min) in control on 8th day.

The rate heart beat showed increase (20.25 ± 0.9574, 20.21٪) 2nd, (26.75 ± 0.9574, 18.89٪) on 5th and (24.25 ± 0.9574, 11.49٪) on 8th day on march during summer season. In the present study of effect of rise in temperature on the rate of oxygen consumption. The rate of oxygen consumption in control was (0.0978 ± 0.01407 mg/Li/h/gm) on 2ndday, (0.11435 ± 0.00367 mg/Li/h/gm) on 5th day and (0.11685 ± 0.01039 mg/Li/h/gm) on 8th day on March during summer. The rate of oxygen consumption was increased in effect of raise in temperature (0.1320 ± 0.00790, 34.96٪ mg/Li/h/gm) on 2nd day, (0.1246 ± 0.00816, 8.964٪ mg/Li/h/gm) on 5th day and (0.12242 ± 0.01099, 4.77٪ mg/Li/h/gm) on 8th day compared to the respective control.

Discussion

The freshwater bivalve molluscs, as a whole seem to possesses considerably greater physiological adaptability than example marine molluscs (Berg et.al., 1958). It is important to know that respiratory function of these animals is essential for understanding.

The effect of temperature of a bivalve, *Isognonum alatus* was studied by *Truman and Lowe (1971). Lowe* (1974) found that heart dependent on the temperature of the bathing fluid and author suggested that the thermoregulation in the mantle tissue plays an important role in respect to the immediate response to the temperature change.

As exposure period increased the rate of oxygen consumption decreased in both (i.e. control as well as experimental), perhaps due to the starvation effect but these decrease in comparatively less in animal exposed to rise in temperature than that of the normal temperature. Mane 1975 stated the rate of oxygen consumption decreased with respect to starvation in *estuarine bivalve katylesia optima.* Similar result also observed by Mane and Talikhedkar (1976) in *Donax conatus*. It is further noted that the rate of oxygen consumption in animals exposed rise in temperature. The long term exposure of animal to change in temperature condition lasting for couple of days or weeks. The organism may show and adjustment rate of oxygen consumption to a level comparable with that which occurred before temperature changes (Newell and Branch, 1980). These is evident that due to rise in temperature, the reaction of organism by distributed physico-chemical bivalve to an abnormal impact of the environment maintained high rate of oxygen consumption (Dhert et.al., 1992). In the present study though new stabilization did not occur due to rise in temperature. Hence considering the importance of natural fluctuations in the environmental parameter the present is decreased in rate was less than control group.

Seasonal variation in respiration is, therefore a quality which must be considered in intra and inter specific comparisons of the physiology of animal. The oxygen sensitivity and oxygen uptake rate of many freshwater organism appear to reflect the habitat in which they live Burkey, A.J. (1983). Along the banker of the Godavari river at gangapur the population of *Indonaia caeruleus* face the low oxygen stress during summer and invade the submerged area. During this time it is probable that the animal experience the elevated water-temperature of the stratified banks of the Godavari river. Hence rate of respiration increased in summer than monsoon and winter.

In *Mytilus edulis* Bruce (1926) found a seasonal pattern of respiration with high values in winter and spring and low values in summer. On the other hand the same species maintained at the constant temperature at 15ºC showed the high rate of respiration in the spring, declining to minimum rate after spawning in the summer and increasing again during atumn (Kruger, 1926). Both the authors correlated this seasonal pattern with the cycle of gametogenesis and the storage and utilization of nutrient reserve Bruce (1926) concluded that the increasing proportion of gonad material in the body through the late summer and autumn increased oxygen demand of the mussels. In the sent study, stated above, the rise in temperature in summer months of well as at 34ºC under experimental condition resulted in increase in the rate of respiration in the increase in the rate of respiration which is probably due to the maintained of the body

abolisms as has been discussed (Bayne, 1976). It is also able that the increase in the day length (as been suggested Chanchel et. al. 1979). However effect of such parameter requires special attention.

Compensatory adjustment in metabolic rate within a range hormonal temperature have been designed as capacity adaptation (Precht, 1958). Although early insight into this subjected derived from studies on bivalves (Spark, 1936, Thomson, 1936), additional malacological contributions have been meager (Bullard, 1964).

In addition of waste heat to water ways and coastal zones is concord (Parker and Krenkel, 1969). While one of the means of heat transfer is to allow heated effluent to spread out on the surface the receiving body, due to various engineering designs or certain hydraulic Condition the effluent may reach the bottom, affecting the benthos (Harleman,1969).

The study revealed that in terms of energy conservation the organism would be expected to make compensatory adjustment to both component of energy and energy loss in such as way that energy is minimized and energy losses are minimized in the face of a in environmental condition. Vedpathak et. al. (1987) while study in effect of temperature on respiration and biochemical constitution in *Indonaia caruleus* stated that due to high energy storage for the maintained of the animal to prolog period of high temperature exposure.

Thus, it can be expected that the differential effect of rise in temperature as changes in pH or desiccation on the metabolic shifts could be due to the functional important and structural differences of difference body parts, and tissue metabolism are represented by geeing of metabolites.

Conclusions

In the present study on the freshwater bivalve *Lamellidens corrianus, desiccation* rate of O2 consumption. The rate of oxygen consumption at low temperature is more as comp aired to high temperature.(i.e. in low temperature it is 0.34ml/lit/hr and high temperature it is 0.05 ml/lit/hr.) and effect at size on rate of oxygen consumption is more in small bivalve as compared to larger bivalve.(i.e. in larger bivalve rate of oxygen consumption is 0.0626ml/lit/hr/gm and in smaller bivalve it is 0.0937ml/lit/hr/gm).

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Isolation of fungal Endophytes from *Lagerstroemia speciosa* and its antibacterial effect

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Abstract:

The study of endophytes in the tropics has received greater attention in recent years (Rodrigues and Petrini, 1997). In reinforcement of this idea, metabolites of endophytes have been described to inhibit a number of microorganisms (Fisher et al., 1984). Lagerstroemia speciosa is a native plant of tropical southern Asia, an Angiosperm belonging to the family Lythraceae. It is used in the treatment of diabetes, kidney diseases, mouth ulcers and astringent properties. The various endophytic from fungal isolates from the plant roots of Lagerstroemia speciosa include the Gliocladium catenulatum, Penicillium pseudostromaticum, Cladorrhinium sp. and Mycelia sterilia. The endophyte Penicillium pseudostromaticum and Mycelia sterilia showed antibacterial property against Staphylococcus aureus. The endophyte, Gliocladium catenulatum showed inhibition against all the three bacteria E.coli, K.pneumoniae and S.aureus. The metabolites showed the presence of aliphatic compounds, acids, aldehydes, esters, ketones and phenols.

Key words- *Endophytic fungi, anti-bacterial property, metabolites, organic compounds*

Introduction:

According to Dreg Fuss and Chapela (1994) there are may be one million species of endophytic fungi in various medicinal plants. Studies have shown that, nearly 300,000 plant species exist on earth and each plant is host to one or several endophytes. The population of a given endophytic species varies from several to a few hundred strains (Strobel and Daisy 2003; Huang *et al*., 2007). However, the study of endophytes in the tropics has received greater attention in recent years (Rodrigues and Petrini, 1997) because of increasing fungal knowledge by local mycologists and the higher number of plant species compared to temperate regions. In reinforcement of this idea, metabolites of endophytes have been described to inhibit a number of microorganisms (Fisher *et al*., 1984).

Lagerstroemia speciosa is a native plant of tropical southern Asia, an Angiosperm belonging to the family Lythraceae. It is an outstanding summer bloomer and it is called Queen Crape Myrtle with grand sized crinkled flowers. It is used in the treatment of diabetes, kidney diseases, mouth ulcers and astringent properties.

In the present study, fungal endophytes were isolated from the roots of the plant, *Lagerstroemia speciosa* by agar plate method and the various fungal isolates include the *Gliocladium catenulatum, Penicillium pseudostromaticum, Cladorrhinium* sp. and *Mycelia sterilia.*The fungal endophytes were cultured in broth medium and the antibacterial study was conducted by turbidity method and Agar Diffusion technique.All the endophytic fungal isolates from the plant *Lagerstroemia speciosa* was studied for antibacterial property on *Staphylococcus aureus, Escherichia coli* and *Klebsiella pneumonia*.

The isolated fungal endophytes, *Penicillium pseudostromaticum* and *Mycelia sterilia* showed antibacterial property against *Staphylococcus aureus.* while the endophyte *Gliocladium catenulatum* showed inhibition of all the three bacteria *E.coli, K.pneumoniae* and *S.aureus*. The endophytic fungi *Cladorrhinium* sp. did not show any bacterial inhibition. *Penicillium pseudostromaticum* showed the presence of aliphatic compounds, acids, aldehydes, esters, ketones and phenols; while *Mycelia sterilia* produced aliphatic compounds, acids, aldehydes, esters and phenols. The fungus *Gliocladium catenulatum* produced aliphatic compounds, aldehydes, ketones and phenols. The fungi *Cladorrhinium* sp. did not show the presence of any of the tested compounds.

Rational of the study:_ The isolation and study of fungal endophytes and their metabolites were studied to understand the effect of antibacterial property.

Objectives:

1. To isolate and screen for the endophytic fungi from roots of medicinal plant of *Lagerstroemia speciosa.*
2. To investigate the effect of the endophytic fungal isolates on medical pathogens *Staphylococcus aureus, Escherichia coli* and *Klebsiella pneumonia.*

Hypothesis: The study of endophytic fungi and their metabolites for anti-bacterial activity. To correlate the research hypothesis of the endophyte being antibacterial with that of the host plant *Lagerstroemia speciosa*, understanding the antibacterial property.

Materials and Methods:

Locality	Latitude	Longitude	Habitat/ Forest type
Dhanvantri Vana, Bengaluru	77.498159° W	12.942061° S	Cultivated

1.1. Sampling site: The study site chosen for collection of endophytic fungal samples was Dhanvantri Vana is located at Jnana Bharathi, Department of forestry, Government of Karnataka, Bengaluru, Karnataka, India.

1.2 Isolation of endophytic fungi: The collected root samples from *Lagerstroemia speciosa* was washed and cut into small pieces and subjected to surface sterilization. The processed root bits were disinfected in 75% alcohol for 1 minute followed by immersion in 5% of sodium hypochlorite for 8 minutes. The sterilized root bits were again immersed in 75% alcohol for 30 seconds and later rinsed in sterile distilled water to remove the traces of sterilants on the surface of root bits. Finally the root bits were blot dried in sterile blotting paper a modified method. (Guo *et al*., 2008; Wang *et al*., 2008; Samaga *et al*., 2014)

The processed root bits were placed on sterilized Potato Dextrose Agar (PDA) medium containing streptomycin and incubated at 28°C for 21 days and observed for growth of fungus.

1.3 Identification of fungal isolates: The isolated fungal colonies were studied for their growth conditions and the colony characteristics, pigmentation and the morphological characters using lactophenol cotton blue.

1.4 Study of endophytic fungi for anti-bacterial activity.

The isolated endophytic fungi were cultured in Potato dextrose broth and incubated for 21 days at 28ºC and the broth was used for the study of antibacterial activity.

(a) Turbidity method: The bacterial strains gram positive *Staphylococcus aureus (NCIM 5345)* and gram negative *Escherichia coli (NCIM 2068)* were cultured in nutrient broth for 48 hours. The test tube with 1ml of sterile nutrient broth, added with the 1ml of crude fungal broth with 100 µl of bacterial culture. The tubes were then incubated at 37ºC for 48 hrs. The tubes were observed for the presence or absence of turbidity. The absence of turbidity indicates that the fungal broth is effective in inhibiting growth of bacteria.

(b) Agar-Plate technique: A plate of nutrient agar medium was inoculated with the test organism by spread plate technique for uniform growth of bacterial lawn. Circular sterile
paper discs soaked in fungal extract was placed on the agar medium. The fungal broth extracted with ethyl acetate and dissolved in DMSO was used for the study of antibacterial property. The plates were then incubated at 37ºC for 36-48 hours and observed for the zone of inhibition. The control disc used was an antibiotic Ciprofloxacin used to compare the zone of inhibition of the test results. The diameter of the inhibition zone around the discs was measured in millimeter (mm). Agar disc diffusion method was followed by the method given by (Kirby- Baurer 1996).

1.5 Study of the endophytic fungal broth for the presence of organic compounds:

The endophytic fungal broth of 21 days was studied by Organic analysis by the AOAC method to screen for various compounds by testing aliphatic compounds, aromatic compounds, amines aldehydes, phenols, and esters can be screened.

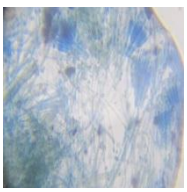
2. Analysis and Data analysis:

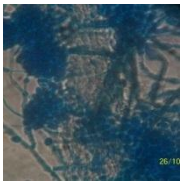
2.1 Endophytic fungi isolated from the plant *Lagerstroemia speciosa*

In the study, four types of endophytes *Gliocladium catenulatum, Penicillium pseudostromaticum, Cladorrhinium* sp. and *Mycelia sterilia* were isolated from the roots of *Lagerstroemia speciosa*.


Lagerstroemia speciosa


Cladorrhinium sp.


P.pseudostromaticim


Glio.catenulatum

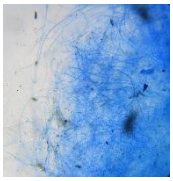

Mycelia sterilia

Fig. 2.1 Fungal isolates from plant roots of *Lagerstroemia speciosa* sampled at Dhanavantri vana

Table .2.1: Endophytic fungi isolates from *Lagerstroemia speciosa*

Sl No	Fungal isolates	Endophytic fungi
	Gliocladium catenulatum	+
2	*Penicillium pseudostromaticum*	+
3	*Cladorrhinium* sp.	+
4	*Mycelia sterilia*	+

2.2 Study of Endophytic fungi for Anti-bacterial activity: The ant- bacterial study of the fungal endophytes was studied by Turbidity method. The endophytic fungi *Penicillium pseudostromaticum* and *Mycelia sterilia* from the plant *Lagerstroemia speciosa*, showed antibacterial property against *Staphylococcus aureus.* while another endophyte *Gliocladium catenulatum* inhibited all the three bacteria *E.coli, K.pneumoniae* and *S.aureus*. The endophytic fungi *Cladorrhinium* sp. did not show any bacterial inhibition.

Table: 2.2 Study of endophytic fungal metabolites as an anti-bacterial property by Turbidity technique

Sl No	Fungal isolates	*E.coli*	*Staph.aureus*	*K. .pneumoniae*
1	*Gliocladium catenulatum*	+	+	+
2	*Penicillium pseudostromaticum*	-	+	-
3	*Cladorrhinium* sp.	-	-	-
4	*Mycelia sterilia*	-	+	-

2.3 Study of endophytic fungal metabolites as an anti-bacterial property by Agar Diffusion technique:

The endophytic fungal metabolites were studied by Agar Diffusion technique and it was found to be inhibiting bacteria. The development of zones of inhibition surrounding the well, indicates the anti-bacterial activity.

Table: 2.3 Study of fungal endophytic metabolites as an anti-bacterial property by Agar diffusion technique.

Sl No	Name of the Plant	Name of the Fungi	Zone of inhibition (mm)		
	Lagerstroemia speciosa		*E.coli*	*Staph.aureus*	*K.pneumoniae*
1		*Gliocladium catenulatum*	6.00	7.00	06.50
2		*Penicillium pseudostromaticum*	0.00	6.00	0.00
3		*Cladorrhinium* sp.	-	-	-
4		*Mycelia sterilia*	-	5.00	-
5	Ciproflaxacin 5µl (1mg/ml) Standard		20.00	21.00	13.00

2.4 Screening of organic compounds from the endophytic fungal metabolites.

Penicillium pseudostromaticum showed the presence of aliphatic compounds, acids, aldehydes, esters, ketones and phenols while *Mycelia sterilia* produced aliphatic compounds, acids, aldehydes, esters and phenols. The fungus *Gliocladium catenulatum* produced aliphatic compounds, aldehydes, ketones and phenols. The fungi *Cladorrhinium* sp. did not show the presence of any of the tested compounds.

Conclusions:

In this context endophytes of medicinal plants have gained adequate importance and it's a field of exploration for the anti-microbial the endophytic compounds. In the present study of the four endophytes *Gliocladium catenulatum, Penicillium pseudostromaticum, Cladorrhinium* sp. and *Mycelia sterilia* were isolated. The endophytic fungus, *Gliocladium catenulatum* showed inhibition of all the test bacteria and hence considered with an efficient anti-bacterial property, producing aliphatic compounds, acids, aldehydes, esters and phenols.

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Changing shape of Indian School Education

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Abstract:
Education is the most powerful weapon, and it can transform the nation. The needs of a highly demanding environment are constantly changing. As a result, the structure of education and many aspects of education is evolving to suit the demands of the present. The paper highlights the changes that are taking place in Indian school education. Like the content and form of the curriculum is evolving in response to new global developments. It also focuses on the immediate changes required in the education system, as said by Lev Vygotsky "New tools of thinking give rise to new mental structure".

Keywords: Change in education, New Technology, New pedagogy.

1.Introduction

Education is essential for realizing one's full potential, creating a just and equal community, and advancing in national growth. The key to India's continued rise and leadership on the global stage is to have equitable access and have a high-quality education. "The global education development agenda reflected in Goal 4 (SDG4) of the 2030 Agenda for Sustainable Development, adopted by India in 2015 - seeks to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030(The 17 Goals, n.d.). To fulfill all of the important targets and goals (SDGs) of the 2030 Agenda for Sustainable Development, the whole educational system will need to be restructured to support and nurture learning.

Different policies of education in India have come up post-independence, to meet the changing requirements of the time. It is divided into times of educational change. The "NPE 1966" policy was based on the modernization of education. It communicated about free and compulsory education. It linked education with national development. Next "Policy 1986" emphasized women's education and the introduction of vocational courses in school education. The process of evaluation and examination reform was also introduced. It focussed more on to" Removal of disparities and to equalize education opportunities" (NPE 1986). The recent policy "National Educational Policy 2020" emphasizes educational reform, "easier" Board assessments, syllabus reduction to maintain "core essentials" and drive in "experiential learning and critical thinking".

2. The changing shape and structure of school education are as follows:

2.1Change in structure: The new structure is divided based on "cognitive development stages". They are as follows:

i. The foundational years for the children aged 3-8 years i.e**.** 3 years of pre-school and 2 years for classes 1 and 2. It emphasizes an activity-based, play-way, discovery-oriented, and multifaceted curriculum.

ii. The preparatory stage for the children aged 8-11 years for grades 3 to 5, emphasizes experimental learning, play-way method, activity, and discovery-based learning.

iii. The middle stage for the children of 11-14 years for grades 6-8 and is based on 21-century learning outcomes.

iv. The secondary stage is of 4 years for aged 14-18 years for grades 9-12 which will involve a multidisciplinary study. (National Education Policy 2020, 2020).

2.2 Curriculum: As advancement is taking place in the world and continuous changes in the environment, the need for curriculum evolution is inevitable. Skill-based education is focused more to meet the demands after school. To satisfy the need of the industry, new pedagogies are launched so that students are ready for the future. Vital Subjects are integrated and introduced into the curriculum, to build abilities, and skills will be such as Artificial Intelligence, Coding, Robotics, etc.

2.3 New teaching methodologies: Students are getting smarter and more differently-abled inclusive setup schools are introduced. To cater to the needs of diverse learner's classroom sessions, need to be more engaging, inventive, productive, and exploratory for a more in-depth and hands-on learning experience. Some of the new techniques are Flipped classroom, Experiential learning, hands-on based learning, discovery-based learning, etc.

2.4 Learning outcomes: As change is occurring in every sector. Education not only focuses on cognitive growth but also holistic development like character development, creative development, and 21st-century skills, etc.

2.5 Student-teacher relationship: the student-teacher relationship needs to be more relaxed, and the teacher needs to focus on each pupil's learning. It needs to be more of a guide on the side than a sage on stage it will be more child-centric than teacher-centric (Morrison, 2014) (Fischer & Hänze, 2019).

2.6 Assessment: The assessment must be a comprehensive, 360-degree, multifaceted report that represents each learner's development as well as their individuality in the cognitive, affective, and psychomotor

aspects. Involving peer assessment, self-assessment, project-based evaluation, assessment of portfolios, role-plays, and many more activities along with teacher evaluation.

2.7 Introduction of more and new education technology: This will help to learn at any time and place. Individualized learning at one's level and pace. More subject possibilities. Introduction to flipped classroom and blended learning. The expanded use of online quizzes, group tasks, and group forums would alter examination habits. Also, technology is great to help during the time of the pandemic. It also aids in the development of the finest teaching techniques and integrates technology that is appropriate for the classroom and students' requirements. (Harris et al., 2016). It has a positive impact on an enhanced teaching-learning environment, no geographical barrier, and globalization taking place at the school level also (Raja & Nagasubramani, 2018).

2.8 Increase in the budget: the budget allotted is increasing every year to meets the demand of the newer changes in education.

3. The Indian education system needs few urgent changes:

From early childhood care schooling to higher education, the disparity between existing learning outcomes and what is expected and what is delivered exist. It must be supplemented by substantial changes that put the best standards and affordability. Hence the education changes are need of the hour.

3.1 Scholastic and Co-scholastic domain: The aim of NEP 2020 and the spirit of NCF is known to stakeholders. The curriculum builds abilities and skills that enable learners for lifelong learning and cultivate global citizenship. The curriculum evolves and offers new opportunities, tools, and services to enhance the skills of learners. Students, teachers, and parents must be aware of Pedagogical Plan for the academic year for the advancement of the scholastic and co-scholastic areas. Different activities are mixed and linked to subjects or school activities in the curriculum. Focus more on competency-based learning and assessment.

3.2 Teaching-learning approach: Use of a variety of new techniques to address a wide range of students and learning patterns, including differently abled and other Inclusion groups. Implementation of formative assessments focuses on remediation and diagnosis of the needs of all pupils need to be focussed. Learning outcomes need to be prepared following NCERT's minimum learning standards.

Method of evaluation: Use of a variety of evaluation instruments to cater to diverse learners, and timely feedback. Teachers should have a good understanding of assessment strategies, including informal and formal, diagnostic, formative, and summative approaches. Emphasis should be on a student's classroom engagement, assignments, communication and leadership skills, and extra-curricular activities. E.g. the Delhi government has asked teachers to have AI-based assessments (Delhi: New school board to bank on AI for assessment).

3.3 Infrastructure: Enough classroom space, ICT capabilities, and high-speed internet connection as well as a sufficient range of labs (s) are available. The optimal resource is used, and adequate numbers of age-appropriate devices/equipment are present. Adequate, comfortable, and age-appropriate furniture is offered. The playground and all of the recreational equipment are in good working order.

3.4 Human resource: The school has trained and competent employees. The leaders foster creativity to equip 21-century skills in students. Also, pedagogy-related courses/workshops, education conferences, or seminars are organized in and out of the school for the teachers.

3.5 Parents and student involvement: Two-way communication takes place and parents are involved in constructive feedback. They help in designing, enforcing school policies and are also actively engaged in school events/activities.

3.6 Inclusive school practices: to cater to all diverse learners the building should be free from any barriers, buses are properly equipped. ICT facilities, teaching and learning aids, and assistive devices for students with disabilities are available in the classroom and are efficiently used. Children in conventional classrooms learn, but in diverse and open classrooms, the degree of growth is strong. (Buli-Holmberg & Jeyaprathaban, 2016). Counselors team up with educators, parents, and administrators for the holistic development of students.

3.7 Better training of educators and technological advancement: Teachers play a critical role in the life of students. So, they need to adopt the best teaching methodologies and practices in education. As there is advancement in technology some teachers face problems with modern technology, so they need to be trained (Khan, 2013). Schools must welcome technology with an open mind. E.g. Artificial Intelligence in education, educational robotics to prepare students for the future (Stošić, 2015) times teacher can be personalized for students with the use of technology such as artificial intelligence and chatbots, that can assist both teachers and students. Advancement in technology also helps in better learning outcomes for students with disabilities (Basham et al., 2016). To use online teaching platforms and technologies and to

become high-quality online content providers. instructors must complete rigorous teacher training programs. A single platform should be there for all educators sharing modern technologies. E.g. On May 18, May 2021 google introduced Google's new AI language platform LaMDA (Language Model for Dialogue Applications) for students (Google showed off its next-generation AI by talking to Pluto and a paper airplane – The Verge).

3.8 Teaching students the purpose of education: All subjects are considered equal and have the same importance for students**.** Students know that education is not all about being a strong, wealthy individual. Besides, they have life morals instilled with humanistic ideals. Education is not considered a burden, but a life-changing experience this will also help in the reduction of dropout rates from school and boost literacy rate.

Conclusion:

With a GDP of ten trillion dollars, India is forecast to become the world's third-largest economy by 2030-2032. Rather than the country's natural wealth, it will be operated by information capital. Digitization of education will be the new normal post-pandemic. This aligns with Prime Minister Narendra Modi's recent call for India to seize the Fourth Industrial Revolution as an opportunity to reach new heights. The National Education Policy 2020 envisions an education system that will transform the country.

It is more important than ever for children to not only read but also to understand how to learn in today's constantly changing work culture and global ecosystem. It is time to put an end to traditional education. As a result, the curriculum must move away from content and converge towards teaching students solving problems, critical thinking techniques, be adaptable, flexible, and creative, as well as to engage in innovative knowledge in rapidly changing sectors.

Marshall McLuhan by "We shape our tools, and then our tools shape us". The maker movement is producing a "cultural" change in school education. Hence this is leading in change curriculum form and content in education. Pedagogy must evolve for education to become more interactive, immersive, holistic, inquiry-based learning, discovery-oriented learning, learner-centered learning, discussion-based learning, scalable, and enjoyable. Basic arts, crafts, sciences, cards, athletics, and fitness must all be included in the program. Making Industry ready students by enhancing abilities and aligning them to industry. Also, the key focus is on 21st-century skills development (Grimus, 2020).

The days of "going to school to obtain good grades and obtain a job" is transforming to "critical thinking and learning, problem-solving, and understanding what has to be done". Respecting and accepting the emerging latest content and skills is the key requirement of educators and students, to gear up for the future. Personalization of learning is the key change that helps in adapting individual differences of students. Developing the ability of students to study and grow on their own is the new normal which leads to creating opportunities for students to be creative. This is possible by practicing divergent teaching and developing an interdisciplinary curriculum.

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Miserable Life of Transgenders- Significant issues of their challenges

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Abstract-

Since time immemorial, we are witnessing Homo Sexualism , innate gender feeling among animals, plants, among human beings, characteristics of male among female, characteristics of female among male…… As a result of this by ascribing certain characteristics it is very difficult to differentiate between male and female. On this basis of differentiation is it right to accuse transgenders as being involved in immoral activities? Is morality related only to Sexualism? Or Gender Identity? Our society's outmoded norms and values have made the days too stern for these people. They are often treated as less-than-human. Unfortunately, such people are facing adversities just because of their "fault" of being transgender- something they did not ask for.

Gender identity resides at the core of one's personal identity, gender expression and presentation. It is very important to treat them with humanity and laws should be strictly passed as other countries towards bringing justice to this marginalized section of the society. Any State cannot prohibit, restrict or interfere with a transgender's expression of such personality which reflects that inherent personality. Due to the negligence of some authorities their identity in the society is not focussed and not given importance. We therefore hold that values of privacy, self-identity, autonomy, and personal integrity are fundamental rights guaranteed to members of the transgender community under Article 19(1)(a) of the Constitution of India and the State is bound to protect and recognize those rights.

Another important factor is concept of Gender. We cannot demarcate accurately by telling male should be like this and female should be like this. At a young age if boy walks like a girl, people comment or ask why a person is behaving like a girl? But as they completely convert into a transgender people will ask are you really a female? Do you really have breasts like female? This has been experienced by Revathi, a transgender who has started Sangama, a NGO for the welfare of transgender.

The very fundamental dilemma begins here. When their family itself insults them, beat them, but still they feel like leading their life like others which is possible due to the strong motive and self confidence vested with them. Their life is not abnormal. It is just the life as other human beings. This self confidence among transgenders can be very well noticed in the efforts of Revathi who has fought against privatisation of drinking water, communalism, and sexual minorities and so on.

Miserable Life-

A study by Kristen Schilt and Catherine Connell named "do workplace gender transitions make gender trouble? was conducted to examine the employees. They interviewed 28 such people in Los Angeles, California, Austin and Texas between 2003 and 2005. They found that many co-workers were uncomfortable sharing gender specific areas with the study participants such as bathrooms. Also, participants were excluded from activities and topics that are gender specific as well after the operation such as menstruation with women.

Another study by Dominic Parrott and John Peterson named "what motivates hate crimes based on sexual orientation? Mediating Effects of anger on anti-gay aggression." In which 135 heterosexual male participants were interviewed to assess sexual prejudice, anger in response to a vignette depicting a non-erotic male. It was found that peer dynamics was a leading cause in anger towards homosexuals.

A survey was conducted consisting of 10 questions to understand certain opinions in the society. Among 82 participants, 47 were females, and 35 male. Age's between 19 to 44, the questions were designed for participants to answer which gender they feel best fits the category. From the survey it was safely inferred that society only considers two genders who fit into the category of male and female.

Being a transgender is not a fault-and we need to make sure transgender people know that. They have a house but they are shelter less, they have parents but they are orphans, they have dignity but nobody respects them, they are humans but are not treated as other human beings.

Our society's outmoded norms and values have made the days too stern for these people. They are often treated as less-than-human. Unfortunately, such people are facing adversities just because of their "fault" of being transgender- something they did not ask for. The situation is very shocking that the doors of the same house where they were born are closed for them; and this result immensely to their miseries. Social boycott, gender discrimination and evil behaviour towards them are the main causes behind their suicide attempts. Always social ostracism is witnessed in their fate.

According to recent data on the transgender population, they constitute somewhere between 0.1 and 0.5% of the total population of the world. A study by the "National Centre for Transgender Equality and National Gay and Lesbian Task Force" shows that in America alone 71% of transgender hide their gender to avoid gender discrimination. A study in US in 2006 found that 32% of transgender have tried to kill themselves. The International Day Against Homophobia Transphobia and Biphobia(IDAHOT) was created in 2004 and is observed on May 17th all over the world to draw the attention of people regarding discrimination against Lesbian, Gay, Bisexual, and Transgender(LGBT) people internationally. Similarly, Trans Murder Monitoring(TMM) project in Europe was initiated in 2009 in order to analyse reports of homicides of transgender people worldwide.

A very well known writer, Rafia Zakaria writes that it is unfortunate to be born as a girl in Pakistan and also it is unfortunate to be born as a transgender everywhere in the world as they are not considered as human beings. It is not their gender producing divergences in our opinions, but it is irrational approach of people and the lack of their ability to think in a broad spectrum. One issue we can consider is that it is not easy to classify everyone as "transgender", who has some ambiguity in their gender identity. If they are able to hide it sufficiently well, others would not even know. Besides it still seems a relatively small percent of the population who are transgenders, at least that would be the common perception among people. As a small minority, they can be made to suffer more indignities than if they were a larger group.

Facts and Figures-

There are about 15 million Trans people worldwide. They face lot of violence and discrimination all over the world. In 2013, 72% of anti-LGBT homicide victims in the US were transgender women, with 'Women of Colour' most affected. About 44-70% of transgender women and girls in Latin America have felt forced to leave home or were thrown out.

Transgender people, often referred to as the Hijras in the Indian subcontinent, are an officially recognized third gender in the country and consider themselves neither male nor female. As per the latest census, India recorded over 487 thousand people who identified as the third gender, most of whom came from the northern state of Uttar Pradesh. Following statistics show the number of transgender who reside in different states of India.

STATE	No. of third gender persons (2011 census)
Uttar Pradesh	137,465
Andhra Pradesh	43,769
Maharashtra	40,891
Bihar	40,827
West Bengal	30,349
Madhya Pradesh	29,597
Tamil Nadu	22,364
Odisha	20,332
Karnataka	20,266
Rajasthan	16,517
Jharkand	13,463
Gujarat	11,544
Assam	11,374
Punjab	10,243
Haryana	8,422
Chhattisgarh	6,591
Uttarkhand	4,555
National Capital Region of Delhi	4,213
Jammu and Kashmir	4,137
Kerala	3,902
Himachal Pradesh	2,051
Other	3,588

The country has an estimated 4 million Hijras, Maximum numbers of transgender are found in Uttar Pradesh with around 5% of the total population of the state. Rest of them are found in Andhra Pradesh, Maharashtra, Gujarat, Bihar, Rajasthan and Delhi are 5%, 11.0%, 6.0%, 6.5%, 4.5% and 2.0% of the total percentage of state population respectively.

As the number of transgender are increasing day by day, many Hijra social movements have campaigned for recognition as a third sex, and in 2005, Indian passport application forms were updated with three gender options: M, F, and E(for male, female and eunuch respectively). Some Indian languages such as Sanskrit have three gender options. In November 2009, India agreed to list eunuchs and transgender people as "others", distinct from males and females, in voting rolls and voter identity cards.

The first ever study on the rights of transgender by National Human Rights Commission says that about 92% of transgender are deprived of the right to participate in any form of economic activity in the country, with even qualified ones refused jobs, reports The Times of India. The total population of transgender according to the 2011 Census is 4.8 lakh; only 30,000 are registered with the Election Commission. However, estimates suggest there are 50 to 60 lakh transgender in India but most of them keep it a secret to avoid discrimination.

Conclusion

Gender identity resides at the core of one's personal identity, gender expression and presentation. It is very important to treat them with humanity and laws should be strictly passed as other countries towards bringing justice to this marginalized section of the society. Any State cannot prohibit, restrict or interfere with a transgender's expression of such personality which reflects that inherent personality. Due to the negligence of some authorities their identity in the society is not focussed and not given importance. We therefore hold that values of privacy, self-identity, autonomy, and personal integrity are fundamental rights guaranteed to members of the transgender community under Article 19(1)(a) of the Constitution of India and the State is bound to protect and recognize those rights.

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Conservation of Mangrove Ecosystem for Sustainable Livelihood

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Abstract
Mangroves are unique ecosystems, widely found in the Tropical and sub-tropical; inter-tidal coastal areas of the world. Mangrove ecosystem provides a range of ecological and economical services. Sindhudurg district of Maharashtra States, India has registered the lowest area under mangrove cover compared to other coastal districts of the state. But this district is known for rich biodiversity and has great tourism potential. Sindhudurg district has also recorded few rare species of mangroves; thus, it has become hot spot of mangrove ecosystem. The population of coastal talukas is poor and largely depends on fishing. Recent mechanization in fishing industry, over-fishing, and marine pollution have created threat to the traditional fishing. And Mangrove ecosystem. The paper showcases a case study from Vengurla taluka of Sindhudurg district from Maharashtra state where stakeholders have adopted an innovative approach to conserve mangrove by aligning Mangrove conservation with sustainable livelihood. Involvement of local community, imparting them rights of ownership of resources, capacity building and funding of local marginalized community (Fisher Women Self-Help Group, SHG) has now become role model for sustainable Development through thoughtful planning and innovative strategies.

Key words: *Mangrove, Ecotourism, Vengurla, Sustainable Livelihood*

Introduction

Sustainable Development Goals (SDG) include seventeen inter-related goals for upliftment and overall sustainable development of global community. It includes Poverty alleviation, Gender Equality, Reduced Inequality, Decent work and Economic growth Resource Conservation, Zero Hunger, Climate Action, Life below water and so on. Overall, SDGs aim at bringing equilibrium in resource conservation for economic viability through social equity. In order to fulfill SDGs each country needs careful planning, involevment of stakeholders and active participation of the local community.Fishing is one of the prominent occupation of community from coastal talukas of Sindhudurg district. But unsustainable fishing practices, over fishing, marine pollution have thretened the traditional fishing practices. Fisher women from Vengurla taluka were spending many hours in Oysters harvesting during low tide to supplement their livelihood. Apart from this, they used to sun dry the fish and weave fishing nets to supplement the family income. But increased accessibility, Mechanization and modernization of fishing sector have reduced demands for the dry fish and manually woven fishing nets has thretened their traditional livelihood and created serious need for searching supplementary sustainable livelihood for fisher women. Sindhudurg district accounts for only 3 percent of Maharashtra's total mangrove cover but houses rich mangrove diversity. The Mangroves ecosystems are unique ecosystem widely found in the Tropical and sub-tropical, inter-tidal coastal areas of the world. Mangroves are salt tolerant (*halophyt*) species; considered as one of the most biodiversity rich ecosystems on the earth. They provides wide range of ecological and economical services. It functions as a breeding ground for fishes and other marine organisms and thus supports the coastal fishing and livelihood of the coastal communities. It protects the coastal shorelines against erosion, storms and tsunamis. The poor coastal communities have symbiotic relationship with local Mangrove ecosystem. They directly and indirectly depend upon Mangroves for their survival. Deniel of access or dgradation of coastal Mangrove ecosystem would have the most adverse impact on them. Moreover, nearly 40 per cent mangrove cover in Maharashtra is located on private land. There is under constant threat of being demolished for profitable enterprises. This shows the importance of urgency towards restoring and propagating the mangrove population in this district.

Study Region

Sindhudurg district is one of the coastal districts of Maharashtra State, India. It has eight talukas and only three i.e. Devgad, Malvan and Vengurla have costline. The River Vaghotan, Devgad, Karli, Gad, Tilari and Terekhol are the main rivers in Sindhudurg district. The district has 15 creeks with dense mangrove forest. The district is rural in nature as more than 87 per cent population lives in the villages (Population Census, 2011). Most of the coastal population depends on fishing activities and their income is below the poverty line i.e. 29.80, 35.49 and 41.15 percent in Devgad, Malvan and Vengurla respectively, the average being 35.48 percent with livelihood promotion.To exploit rich tourism potential of the district, the Government of Maharashtra has declared Sindhudurg district as *'Tourism District'* (GOM, 1997). Tourism activities, agro-chemicals and sewage have polluted the creek and coastal Mangrove ecosystems. Since declared as

Tourism District by the State Government of Maharashtra, Sindhudurga district could have models of Mangrove Eco-tourism activities by conserving the existing and restoring the potential mangrove sites.

Rational for the Study

Sindhudurg district is known as ecologically sensitive hot spot due to existence of rare species of mangroves such as Xylocarpus granatum, Cynometra iripa, Dolichandrone spathacea and Rhizophora apiculata makes the coastal habitat of Sindhudurg. Like, the research scholars from Indian Institute of Science Bangalore have noted the existance of Sundari (Heritiera littoralis), a rare mangrove tree, along the west coast of India (TOI, 2009). The Mangrove biodiversity of Sindhudurg district possess few endangered species mangroves. This calls for the urgent need of conservation of Mangrove ecosystem. Generally, conservation approach includes declaring mangrove covered land as Marine Park and banning economic activities. This paper attempts to study an innovative approach of mangrove conservation that shows paradigm shift in the apporach of conservation of natural resources which confirms rights and ownership of poor local communities on their own natural resources.

Mangrove Safari Ecotourism Model

Mangrove Cell of Maharashtra State linked the mangrove conservation program with livelihood for fisher women's self-help groups in Vengurla tahsil in 2012 (Vasudevan N. & Goenka D., 2017), The fisher women from Vengurla tahsil formed Swamini *Swayamsahayata Mahila Bachat Gat* (Self Help Group) and approached them. Earlier the Swamini SHG was engaged in selling home made traditional sweets and snacks and during evening they use to sell fish to supplement their household income.

The local fisher women had strong desire to venture into backwater tourism but were unable to do so due to Coastal Regulatory Zone (CRZ) restrictions and lack of funds. This dream came into reality when United Nations Development Program, India (UNDP) and the Global Environmental Facility (GEF) in collaboration with the Mangrove Cell, Maharashtra State and Maharashtra forest department gave them Rs 5 lakh as aid to buy equipments like two boats, 20 life jackets and one Gazebo.

Figure 1 Major Stakeholders of Mangrove Safari

Swamini SHG conducts Mangrove Safari Ecotourism into two batches. Ecotouirsm is defined as "Responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education" (TIES, 2015). Every day at morning 8 o'clock, the members of Swamini SHG starts boat rides which takes around ninety minutes for 300 metre stretch in the Mandvi creek, Vengurla, Sindhudurg.

Capacity Building

After reciving capital and necessary resources for initiating Mangrove Safari Ecotouirsm also there was big challenge lying ahead them was of capacity building for sustainable Mangrove safari. There was need to master various skills as the part of this new business such as Boat rowing skills, Communication skills, Competencies in English to handle foreign tourists and Identification and interpretation of mangroves.

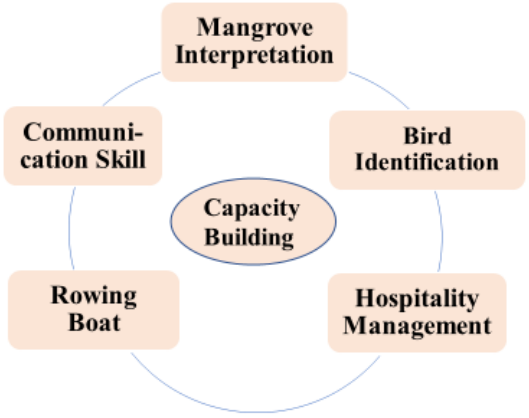

Figure 2 Capacity Building

Mangrove Conservation

The main aim of the Mangrove Safari is to create awareness among the local people and tourists in understanding the significance of mangroves and nourishment properties of mangroves to strengthen coastal livelihood and also address food security of the poor coastal communities of the world. Deliberately SHG is using rowing boat to avoid marine pollution by avoiding to use disel driven boats. During boat ride, SHG women use pointed sticks to clear garbage from the mangrove roots. Focus on livelihood activities helped boost mangrove cover across South Konkan districts. Sindhudurg district. The district has recorded 13.71 sq. km mangrove cover as against 12 sq. km in 2017. This suggests around 14 per cent rise in mangrove cover in 2018 (HT, 2018)

Economic Viability

The Mangrove Safari Ecotourism runs for about six months and remain close during four months of monsoon. The Swamini SHG had earned around Rs.70,000 within first four months of operation Mangrove Safari during 2017. The last tourist season was short due to pandemic-induced lockdown. In spite of that from October 2020 to March 2021 the group had made profit close to Rs 2,00,000. Swamini SHG also a runs a seafood restaurant for the tourist right from North Indian to Chinese food. Now they run Gazebo and serve fish food delicacies if order given to prior a day. The income from the restaurant is used for further expansion of the business.

Social Equity

Members of Swamini SHG Mangrove Safari received popularity in the neighbourhood and earned self esteem as they entered in this masculine business. Many women SHGs now wish to replicate this model of Mangrove Safari, Ecotourism.

Conclusion

Conservation of natural ecosystems like Mangrove can be effectively done with active participation of local communities. This case study has proved that if local community gets tangible benefits from the natural resource through resource ownership and capacity building then such conservation efforts always become successful. The challenge of conserving the rich mangrove biodiversity in the light of providing sustainable livelihood alternatives to the coastal community has become replicable model. This had definitely reduced the pressure on fish and other marine biodiversity. This case study sites good example of inclusiveness, accountability, and transparency in natural resources management. Livelihood enhancement through mangrove conservation-restoration has given rise to innovative idea of mangrove eco-tourism. Local community has become change maker to spread the word of awareness about significance of mangrove ecosystem and are effectively contributing in mangrove conservation. The mangrove cover has been remarkably grown in the district

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Sustainable Development and Gandhian Thought

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This paper about Mahatma Gandhi's thought and sustainable development. Mahatma Gandhi's thought very useful for sustainable development. e.g. Theory of small unit machine of Mahatma Gandhi.. This theory is related to sustainable development theory. This principle is complementary to sustainable development. First of all, what is sustainable development? It remains to be seen. It is defined as follows in Wikipedia." Sustainable development is the principle that organizes the fulfillment of human development goals, while at the same time sustaining the natural system's ability to provide natural resources and environmental services that depend on the economy and society. The desired result is a state of society where living conditions and resources are used to complement human life without compromising the integrity and stability of the natural system. Sustainable development can be defined as a development that meets the needs of the present without compromising the ability of future generations to meet their own needs. (Wikipedia) The concept of sustainable development is derived mostly from the 1987 Brundtland Report, As the concept developed, it has shifted its focus more towards the economic development, social development and environmental protection for future generations. It has been suggested that "the term 'sustainability' should be viewed as humanity's target goal of human-ecosystem equilibrium, while 'sustainable development' refers to the holistic approach and temporal processes that lead us to the end point of sustainability". (Shaker, 2015) In short, sustainable development means achieving economic development without harming the environment.

After looking at the definition of sustainable development, it would be appropriate to look at Gandhiji's thoughts. The misconception that Gandhiji was completely against the use of machinery is happening in his time and even now. Then one should know Gandhiji's mechanical approach. That is to say, Gandhi was not anti-machine. According to him, it is inappropriate to use a machine that causes disrepute and economic exploitation of working life. Without hindering the elimination of unemployment and poverty in India, without allowing the centralization of power, without undermining the independence of the village, there is no problem in accepting the mechanisms that are acceptable. Which benefits the majority, which increases the income and power of some and increases social, economic and political inequality, which in turn makes life miserable for some and devalues the lives of workers; Gandhiji was opposed to the use (improvement) of any such device. (Parel, 2009) He was of the view that the dignity of the workers could not be distinguished from the dignity of the working life. According to him, some people find it useless to work without labor, while others find physical labor disgraceful. As a result, they become enslaved to machines and paralyzed. Large machinery and industry will make cities grow, some will get jobs, but the majority will be unemployed. There will be direct or indirect exploitation of villages. A few capitalists can save money using the machine. But the majority of the poor working people will be economically exploited. In this way, Gandhiji had given impetus to village industries and basic industries by opposing machinery and big industries. Regarding the machine, Gandhiji made it clear, "I am not against the machine. But I am opposed to the madness of mechanization. The device has its own space. Large scale industries also have their own space. Modern technology will also be used in the field of communication. But the village industry and cottage industry that is going on in the villages should survive.(Guha, 2013) It doesn't matter if you have to use some new technology to a certain extent. Apart from this, there is a huge problem of unemployment in the country It cannot be solved and if we do not solve this problem, our democracy will be in danger.

Village Industries: To eradicate rural unemployment and poverty in India, Gandhiji gave importance to handicrafts and cottage industries. Village industries should be given priority to make the rural economy self-sufficient. Charkha is the only means of eradicating poverty and generating employment and wealth. Farmers, laborers and all such people can add to the national income by spinning in their spare time. He opined that a boycott of foreign goods should be done and domestic goods should be used, so that the wealth going abroad would remain in the country and the rural economy would be more stable and self-sufficient. Defects like conflict, colonialism, imperialism etc. are created. To avoid these defects, Gandhiji had placed more emphasis on village industries like khadi, handloom, charkha. (Brown, 1991)

Gandhiji has elaborated on the idea of Gram Rajya, Ram Rajya to create a stateless society. He was of the opinion that the social structure should be changed by considering the caste system in the society. He was of the view that the overall development of the country would not take place unless the political power

reached the village level by adopting the principle of decentralization. According to him, a village state in the true sense of the word will be formed only when the villages become self-sufficient and autonomous, considering the village or village as an important factor. Villages need to be economically, socially and politically self-sufficient. Economic transformation can be brought about by increasing production, starting new, old village industries and value industries. Panchayats will be set up to look after the governance of villages. Through panchayats, efforts will be made to resolve political, economic and social issues. Gandhiji has explained the idea of village state in the following words. "In such a state everyone is his own ruler. He rules himself in such a manner that he is never a hindrance to his neighbor. In the ideal state therefore there is no political power because there is no state." In order for the component to be truly self-sufficient, every person in the village must participate in the administration of the village. Everyone should control themselves. One should act responsibly to ensure that the development of others is not hampered. All the problems of the people there should be solved through the Gram Panchayat. Only then will an ideal village state be created there. If every village becomes self-sufficient and happy, there will be no need for central government in the country. If the whole society becomes non-violent and egalitarian, then the punishment of the state will be unnecessary. (Fischer 1950).

Conclusion

After looking at Mahatma Gandhi's thoughts in this way, you can say that Gandhiji was opposed to the big machine. Because it degrades the environment and also increases unemployment tremendously. Large machinery is degrading the environment. From that, the next generation will have to face many catastrophic things. Just like Gandhiji promotes village industries and cottage industries. It will also eliminate unemployment and prevent environmental degradation.

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Sustainable Development Goals

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Introduction

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. The 17 SDGs are integrated—they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability. Countries have committed to prioritize progress for those who're furthest behind. The SDGs are designed to end poverty, hunger, AIDS, and discrimination against women and girls.

Goal 1

No Poverty

Eradicating poverty in all its forms remains one of the greatest challenges facing humanity. While the number of people living in extreme poverty dropped by more than half between 1990 and 2015, too many are still struggling for the most basic human needs.

As of 2015, about 736 million people still lived on less than US$1.90 a day; many lack food, clean drinking water and sanitation. Rapid growth in countries such as China and India has lifted millions out of poverty, but progress has been uneven. Women are more likely to be poor than men because they have less paid work, education, and own less property.

Progress has also been limited in other regions, such as South Asia and sub-Saharan Africa, which account for 80 percent of those living in extreme poverty. New threats brought on by climate change, conflict and food insecurity, mean even more work is needed to bring people out of poverty.

The SDGs are a bold commitment to finish what we started, and end poverty in all forms and dimensions by 2030. This involves targeting the most vulnerable, increasing basic resources and services, and supporting communities affected by conflict and climate-related disasters.

Goal 2

Zero Hunger

The number of undernourished people has dropped by almost half in the past two decades because of rapid economic growth and increased agricultural productivity. Many developing countries that used to suffer from famine and hunger can now meet their nutritional needs. Central and East Asia, Latin America and the Caribbean have all made huge progress in eradicating extreme hunger.

Unfortunately, extreme hunger and malnutrition remain a huge barrier to development in many countries. There are 821 million people estimated to be chronically undernourished as of 2017, often as a direct consequence of environmental degradation, drought and biodiversity loss. Over 90 million children under five are dangerously underweight. Undernourishment and severe food insecurity appear to be increasing in almost all regions of Africa, as well as in South America.

The SDGs aim to end all forms of hunger and malnutrition by 2030, making sure all people–especially children–have sufficient and nutritious food all year. This involves promoting sustainable agricultural, supporting small-scale farmers and equal access to land, technology and markets. It also requires international cooperation to ensure investment in infrastructure and technology to improve agricultural productivity.

Goal 3

Good Health And Well-Being

We have made great progress against several leading causes of death and disease. Life expectancy has increased dramatically; infant and maternal mortality rates have declined, we've turned the tide on HIV and malaria deaths have halved.

Good health is essential to sustainable development and the 2030 Agenda reflects the complexity and interconnectedness of the two. It takes into account widening economic and social inequalities, rapid urbanization, threats to the climate and the environment, the continuing burden of HIV and other infectious diseases, and emerging challenges such as noncommunicable diseases. Universal health coverage will be integral to achieving SDG 3, ending poverty and reducing inequalities. Emerging global health priorities not explicitly included in the SDGs, including antimicrobial resistance, also demand action.

But the world is off-track to achieve the health-related SDGs. Progress has been uneven, both between and within countries. There's a 31-year gap between the countries with the shortest and longest life expectancies. And while some countries have made impressive gains, national averages hide that many are being left behind. Multisectoral, rights-based and gender-sensitive approaches are essential to address inequalities and to build good health for all.

Goal 4

Quality Education

Since 2000, there has been enormous progress in achieving the target of universal primary education. The total enrollment rate in developing regions reached 91 percent in 2015, and the worldwide number of children out of school has dropped by almost half. There has also been a dramatic increase in literacy rates, and many more girls are in school than ever before. These are all remarkable successes.

Progress has also been tough in some developing regions due to high levels of poverty, armed conflicts and other emergencies. In Western Asia and North Africa, ongoing armed conflict has seen an increase in the number of children out of school. This is a worrying trend. While Sub-Saharan Africa made the greatest progress in primary school enrollment among all developing regions – from 52 percent in 1990, up to 78 percent in 2012 – large disparities still remain. Children from the poorest households are up to four times more likely to be out of school than those of the richest households. Disparities between rural and urban areas also remain high.

Achieving inclusive and quality education for all reaffirms the belief that education is one of the most powerful and proven vehicles for sustainable development. This goal ensures that all girls and boys complete free primary and secondary schooling by 2030. It also aims to provide equal access to affordable vocational training, to eliminate gender and wealth disparities, and achieve universal access to a quality higher education.

Goal 5

Gender Equality

Ending all discrimination against women and girls is not only a basic human right, it's crucial for sustainable future; it's proven that empowering women and girls helps economic growth and development.

UNDP has made gender equality central to its work and we've seen remarkable progress in the past 20 years. There are more girls in school now compared to 15 years ago, and most regions have reached gender parity in primary education.

But although there are more women than ever in the labour market, there are still large inequalities in some regions, with women systematically denied the same work rights as men. Sexual violence and exploitation, the unequal division of unpaid care and domestic work, and discrimination in public office all remain huge barriers. Climate change and disasters continue to have a disproportionate effect on women and children, as do conflict and migration.

It is vital to give women equal rights land and property, sexual and reproductive health, and to technology and the internet. Today there are more women in public office than ever before, but encouraging more women leaders will help achieve greater gender equality.

Goal 6

Clean Water And Sanitation

Water scarcity affects more than 40 percent of people, an alarming figure that is projected to rise as temperatures do. Although 2.1 billion people have improved water sanitation since 1990, dwindling drinking water supplies are affecting every continent.

More and more countries are experiencing water stress, and increasing drought and desertification is already worsening these trends. By 2050, it is projected that at least one in four people will suffer recurring water shortages.

Safe and affordable drinking water for all by 2030 requires we invest in adequate infrastructure, provide sanitation facilities, and encourage hygiene. Protecting and restoring water-related ecosystems is essential.

Ensuring universal safe and affordable drinking water involves reaching over 800 million people who lack basic services and improving accessibility and safety of services for over two billion.

In 2015, 4.5 billion people lacked safely managed sanitation services (with adequately disposed or treated excreta) and 2.3 billion lacked even basic sanitation.

Goal 7

Affordable And Clean Energy

Between 2000 and 2018, the number of people with electricity increased from 78 to 90 percent, and the numbers without electricity dipped to 789 million.

Yet as the population continues to grow, so will the demand for cheap energy, and an economy reliant on fossil fuels is creating drastic changes to our climate.

Investing in solar, wind and thermal power, improving energy productivity, and ensuring energy for all is vital if we are to achieve SDG 7 by 2030.

Expanding infrastructure and upgrading technology to provide clean and more efficient energy in all countries will encourage growth and help the environment.

Goal 8

Decent Work And Economic Growth

Over the past 25 years the number of workers living in extreme poverty has declined dramatically, despite the lasting impact of the 2008 economic crisis and global recession. In developing countries, the middle class now makes up more than 34 percent of total employment – a number that has almost tripled between 1991 and 2015.

However, as the global economy continues to recover we are seeing slower growth, widening inequalities, and not enough jobs to keep up with a growing labour force. According to the International Labour Organization, more than 204 million people were unemployed in 2015.

The SDGs promote sustained economic growth, higher levels of productivity and technological innovation. Encouraging entrepreneurship and job creation are key to this, as are effective measures to eradicate forced labour, slavery and human trafficking. With these targets in mind, the goal is to achieve full and productive employment, and decent work, for all women and men by 2030.

Goal 9

Industry, Innovation And Infrastructure

Investment in infrastructure and innovation are crucial drivers of economic growth and development. With over half the world population now living in cities, mass transport and renewable energy are becoming ever more important, as are the growth of new industries and information and communication technologies.

Technological progress is also key to finding lasting solutions to both economic and environmental challenges, such as providing new jobs and promoting energy efficiency. Promoting sustainable industries, and investing in scientific research and innovation, are all important ways to facilitate sustainable development.

More than 4 billion people still do not have access to the Internet, and 90 percent are from the developing world. Bridging this digital divide is crucial to ensure equal access to information and knowledge, as well as foster innovation and entrepreneurship.

Goal 10

Reduced Inequalities

Income inequality is on the rise—the richest 10 percent have up to 40 percent of global income whereas the poorest 10 percent earn only between 2 to 7 percent. If we take into account population growth inequality in developing countries, inequality has increased by 11 percent.

Income inequality has increased in nearly everywhere in recent decades, but at different speeds. It's lowest in Europe and highest in the Middle East.

These widening disparities require sound policies to empower lower income earners, and promote economic inclusion of all regardless of sex, race or ethnicity.

Income inequality requires global solutions. This involves improving the regulation and monitoring of financial markets and institutions, encouraging development assistance and foreign direct investment to regions where the need is greatest. Facilitating the safe migration and mobility of people is also key to bridging the widening divide.

Goal 11

Sustainable Cities And Communities

More than half of us live in cities. By 2050, two-thirds of all humanity—6.5 billion people—will be urban. Sustainable development cannot be achieved without significantly transforming the way we build and manage our urban spaces.

The rapid growth of cities—a result of rising populations and increasing migration—has led to a boom in mega-cities, especially in the developing world, and slums are becoming a more significant feature of urban life.

Making cities sustainable means creating career and business opportunities, safe and affordable housing, and building resilient societies and economies. It involves investment in public transport, creating green public spaces, and improving urban planning and management in participatory and inclusive ways.

Goal 12

Responsible Consumption And Production

Achieving economic growth and sustainable development requires that we urgently reduce our ecological footprint by changing the way we produce and consume goods and resources. Agriculture is the biggest user of water worldwide, and irrigation now claims close to 70 percent of all freshwater for human use.

The efficient management of our shared natural resources, and the way we dispose of toxic waste and pollutants, are important targets to achieve this goal. Encouraging industries, businesses and consumers to recycle and reduce waste is equally important, as is supporting developing countries to move towards more sustainable patterns of consumption by 2030.

A large share of the world population is still consuming far too little to meet even their basic needs. Halving the per capita of global food waste at the retailer and consumer levels is also important for creating more efficient production and supply chains. This can help with food security, and shift us towards a more resource efficient economy.

Goal 13

Climate Action

There is no country that is not experiencing the drastic effects of climate change. Greenhouse gas emissions are more than 50 percent higher than in 1990. Global warming is causing long-lasting changes to our climate system, which threatens irreversible consequences if we do not act.

The annual average economic losses from climate-related disasters are in the hundreds of billions of dollars. This is not to mention the human impact of geo-physical disasters, which are 91 percent climate-related, and which between 1998 and 2017 killed 1.3 million people, and left 4.4 billion injured. The goal aims to mobilize US$100 billion annually by 2020 to address the needs of developing countries to both adapt to climate change and invest in low-carbon development.

Supporting vulnerable regions will directly contribute not only to Goal 13 but also to the other SDGs. These actions must also go hand in hand with efforts to integrate disaster risk measures, sustainable natural resource management, and human security into national development strategies. It is still possible, with strong political will, increased investment, and using existing technology, to limit the increase in global mean temperature to two degrees Celsius above pre-industrial levels, aiming at 1.5°C, but this requires urgent and ambitious collective action.

Goal 14

Life Below Water

The world's oceans – their temperature, chemistry, currents and life – drive global systems that make the Earth habitable for humankind. How we manage this vital resource is essential for humanity as a whole, and to counterbalance the effects of climate change.

Over three billion people depend on marine and coastal biodiversity for their livelihoods. However, today we are seeing 30 percent of the world's fish stocks overexploited, reaching below the level at which they can produce sustainable yields.

Oceans also absorb about 30 percent of the carbon dioxide produced by humans, and we are seeing a 26 percent rise in ocean acidification since the beginning of the industrial revolution. Marine pollution, an overwhelming majority of which comes from land-based sources, is reaching alarming levels, with an average of 13,000 pieces of plastic litter to be found on every square kilometre of ocean.

The SDGs aim to sustainably manage and protect marine and coastal ecosystems from pollution, as well as address the impacts of ocean acidification. Enhancing conservation and the sustainable use of ocean-based resources through international law will also help mitigate some of the challenges facing our oceans.

Goal 15

Life On Land

Human life depends on the earth as much as the ocean for our sustenance and livelihoods. Plant life provides 80 percent of the human diet, and we rely on agriculture as an important economic resources. Forests cover 30 percent of the Earth's surface, provide vital habitats for millions of species, and important sources for clean air and water, as well as being crucial for combating climate change.

Every year, 13 million hectares of forests are lost, while the persistent degradation of drylands has led to the desertification of 3.6 billion hectares, disproportionately affecting poor communities.

While 15 percent of land is protected, biodiversity is still at risk. Nearly 7,000 species of animals and plants have been illegally traded. Wildlife trafficking not only erodes biodiversity, but creates insecurity, fuels conflict, and feeds corruption.

Urgent action must be taken to reduce the loss of natural habitats and biodiversity which are part of our common heritage and support global food and water security, climate change mitigation and adaptation, and peace and security.

Goal 16

Peace, Justice And Strong Institutions

We cannot hope for sustainable development without peace, stability, human rights and effective governance, based on the rule of law. Yet our world is increasingly divided. Some regions enjoy peace, security and prosperity, while others fall into seemingly endless cycles of conflict and violence. This is not inevitable and must be addressed.

Armed violence and insecurity have a destructive impact on a country's development, affecting economic growth, and often resulting in grievances that last for generations. Sexual violence, crime, exploitation and torture are also prevalent where there is conflict, or no rule of law, and countries must take measures to protect those who are most at risk

The SDGs aim to significantly reduce all forms of violence, and work with governments and communities to end conflict and insecurity. Promoting the rule of law and human rights are key to this process, as is reducing the flow of illicit arms and strengthening the participation of developing countries in the institutions of global governance.

Goal 17

Partnerships for The Goals

The SDGs can only be realized with strong global partnerships and cooperation. Official Development Assistance remained steady but below target, at US$147 billion in 2017. While humanitarian crises brought on by conflict or natural disasters continue to demand more financial resources and aid. Many countries also require Official Development Assistance to encourage growth and trade.

The world is more interconnected than ever. Improving access to technology and knowledge is an important way to share ideas and foster innovation. Coordinating policies to help developing countries manage their debt, as well as promoting investment for the least developed, is vital for sustainable growth and development.

Conclusion

The goals aim to enhance North-South and South-South cooperation by supporting national plans to achieve all the targets. Promoting international trade, and helping developing countries increase their exports is all part of achieving a universal rules-based and equitable trading system that is fair and open and benefits all.

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Impact of Covid-19 on Agriculture Sector in India

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Abstract:
Agriculture is backbone of Indian economy. COVID-19 pandemic has disrupted the Indian agricultural system extensively. Nevertheless, the recent quarterly GDP estimates post-COVID scenario showcase robustness and resilience in Indian agriculture, the only sector to register a positive growth of 3.4% during the financial year 2020–21. Coronavirus pandemic has upset the Indian farming framework broadly. In this paper, an attempt has been made to synthesize the early evidence of the COVID-19 impact on the Indian agricultural sector such as, production, marketing and consumption followed by a set of potential strategies to recover and prosper post-pandemic. Most of the Studies and findings indicate that the pandemic has affected production and marketing through labour and logistical constraints.The pandemic wreaked a substantial physical, social, economic and emotional widespread destruction on all the stakeholders of Indian agricultural system. This paper focus on the impact of the Covid-19 on the day to day life and other important factors which are related to agricultural sector of India.

Key words: *Agriculture Sector, GDP, Covid19, pandemic, Challenges.*

Introduction:

India is basically an agricultural country. The natural conditions, the flora and fauna have made agriculture as one of the primary occupation of the masses. Mahatma Gandhi has also said that the real India lives in villages. The village is the basic unit of the Indian economic constitution. Agriculture has been the occupation right from the Vedic times. References of agriculture are found in the Reg -Veda, Ajur -Veda and Atharv-veda. The oldest record of mankind. A well-developed system of agricultural administration is found recorded in the Arthashtra of Kautilya. In the middle age to present period also agriculture has remained the basic occupation of masses and the foundation of Indian economy .The scene has not changed today also. Agriculture is the backbone of Indian economy and despite concerted industrialisation in the last 70 years. Agriculture dominates the economy to such an extent that a very high proportion of working population in India engaged in agriculture. In 1951 about70% of the total main workers were engaged in agriculture and allied activities. During 2001 the share of agriculture in total employment declined to 59%. In absolute terms agriculture provides employment to 97 million persons in 1995and in 2020-21 it is decreased up to 41.49%. Now a day's Indian agriculture has done pretty well during the recent period. Annual growth has been ranging between 3.5% and 5% during the last five years and the growth has broad-based itself, in terms of both production and geographical coverage. The advanced estimates of agricultural production for the year 2019-20 are optimistic and the growth is estimated at 4%. As per the fourth advance estimates, food grain production is 296.65 million tonnes (4.08% higher than 2018-19). In addition, as per the third advance estimates (2019-20), total horticultural production is likely to be 320.67 million tonnes in 2019-20 as compared to 310.74 million tonnes in 2018-19, which is 3.19% higher than 2018-19. However, it is to be noted that any deviation in normal operations may give some setback to these estimates, particularly the impact of late rains and hailstorm on Rabi crops. Further, as per the Food Corporation of India (FCI) as on September 2020, the stocks of wheat and rice in the Central pool stand at 70.02 million tonnes, which is thrice more than the operational buffer-cum-strategic stock of 21.04 million tonnes. All these points towards more than adequate food supply in the country. The lockdown in the wake of COVID-19 has disrupted economic activities and the supply chains significantly. Millions of people have been infected with COVID-19 globally and the death toll is rising fast. It is expected that the lockdown measures would flatten the infection curve soon, and essential economic activities and services shall be back in place. In India, the rate of mortality, fortunately, has not been that rapid due to timely interventions by the government, but the impact of COVID-19 has been coinciding with the economic slowdown. It is expected that the lockdown shall further reduce the economic growth by about 10% or more. This is likely to have an impact on demand for agricultural products, dislocation of labour force and disruption of supply chains.

Importance of agricultural in Indian economy:

Agriculture being the largest industry in the country, agriculture provides employment to around 49.41 percent of the total work force in the country. The significance of agriculture in the national economy can be best explained by considering the role of agriculture under different heads. It has been

rightly observed. The pace of economic transformation has an important bearing of the role and strategy of agricultural development is the key determinants of the size and rate of transformation. The specific nature of the agriculture sector determines the extent to which economic development depends on capital formation in agriculture and transfer of capital from agriculture to other sector.

Following points can be highlighted to emphasize the relevance of agriculture with various aspects of an economy.

1. Agriculture helps capital formation.
2. Agriculture helps employment generation.
3. Agriculture helps foreign exchange reserve.
4. Agriculture helps rural welfare

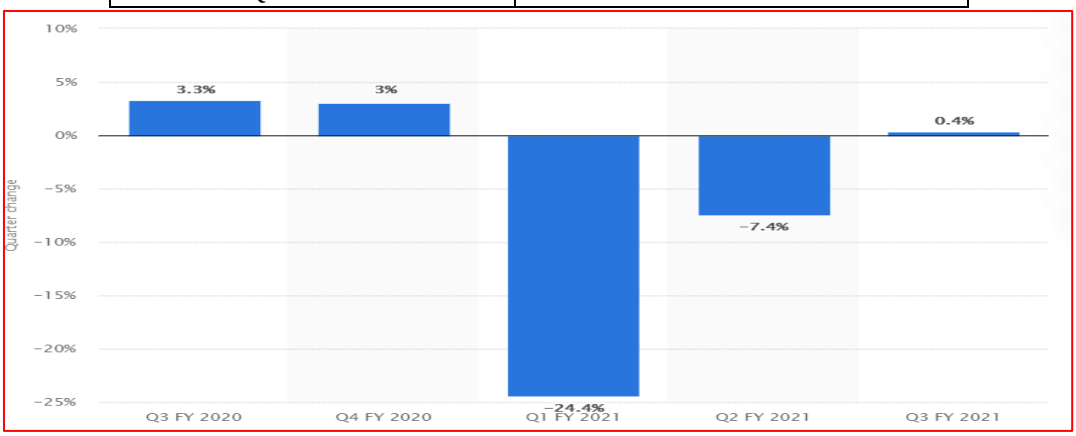
These are some of the points agriculture in fact helps total economic transformations.

Farm and Post-harvest Operations:

The ongoing crisis around COVID-19 pandemic has affected most economic activities across the globe. In the absence of any cure, several countries, including India, opted to go for a general lockdown to contain the faster spreading of the disease. In India, the immediate implications of this lockdown on the agricultural front were witnessed in the form of disruption of activities relating to harvesting and marketing of agricultural crops and commodities. However, contrary to the initial expectations, harvesting operations have not been seriously affected by the lockdown. Although delayed by almost two weeks, the harvesting operations were completed more or less smoothly. Reverse migration of labourers and cooperation among farmers and their families helped them to complete the harvesting in almost all the regions. Further, there was not any significant reduction in the yields leading to a good production of Kharip and Rabi crops.

Estimated Quarterly Impact from Covid-19 on India's GDP:

Characteristic	Quarter Change
Q3 FY2021	0.4%
Q2 FY2021	-7.4%
Q1 FY2021	-24.4%
Q4 FY2021	3%
Q3 FY2021	3.3%



India's Quarterly GDP was estimated to grow by 0.4% in the third Quarter of financial year 2021 compared to the same Quarter previous fiscal year. This was significant improvement from the time between April and June 2020, when the country went into lockdown to contain the various and GDP growth declined by nearly 25% compared to the same time period in the previous year.

Overall Economic and Agricultural Growth:

The pandemic and resulting income losses during the initial phases have reduced the household expenditure on food, non-food commodities and services. Partly as a response to the reduction in demand, private investment has also gone down. Statistics indicate household expenditure has declined by 27% in real terms in Q1 of the FY 2020-21, and investments have gone down by 47%. As a measure to address the

impacts, the Government has raised its expenditure by 16%, and has announced a slew of measures that would raise employment, income, and investment. One would expect investments would improve quickly in the short run, and the pace of decline in growth would be moderated. External trade is also expected to improve. Exports of agricultural commodities like rice have increased by 35%, fruits and vegetables by 14%, and oilseeds by 10% during April-August 2020 as compared to the previous year. Positive agricultural growth witnessed during the pandemic and predicted climate normality in future bring further hope that agricultural exports would continue to improve in future as well.

Agricultural Markets, Farm Income and Commodity Prices:

The availability, expected change in demand, and disruption in the supply chains has impacted the prices of essential commodities during the COVID-19 period. The supply of 16 food grains and other essential commodities got impacted during the first phase of the lockdown1 due to the closure of agricultural markets and supply chain disruptions, however with the timely action by the Government the supply of agricultural produce improved because of a good agricultural year. The wholesale and retail prices of food grains and edible oils in the four metro cities have increased moderately (less than 10%) during the fortnight ending first phase of lockdown over the pre-lockdown fortnight, except for gram dal in Mumbai and Turn dal in Chennai. Pulses' prices continued to increase even during the second phase of lockdown. This was partly because of the supply disruptions due to closure of dal mills amid non-availability of labour and lockdown restrictions, and because of change in consumer preferences from animal based protein demand to vegetable protein sources.

Conclusion:

1. According to the report of NITI Aayog the estimated growth in agriculture sector in India in2019-20 was 3.7% which can be deduced at 11.3%in current prices. As per the Economic survey of India 2019-20, annual growth rate in real terms in agriculture and its allied sectors was 2.88 percent from 2014-15 to 2018-19 whereas the estimated growth rate in 2019-20 was 2.9 percent.
2. Share of agriculture sector in Indian economy is 17 percent which is higher than the manufacturing sector and agriculture alone will give more than 0.52 percent to the growth rate of Indian economy as markers are intact and prices has not crashed.
3. As being the agriculture is the largest industry in the country, it provides employment to 49.41 percent work force in current scenario. The specific nature of agriculture sector determine to the extent which economic development depends on capital formation in agriculture sector.
4. The covid-19 pandemic impact on both the globe and the Indian agriculture sector The GDP for recent quarter for financial year 2020-21 estimate post Covid scenario showcase robustness and resilience in Indian agriculture. Coronavirus pandemic has upset the Indian agriculture frame work broadly. Only agriculture is the sector to register a positive growth rate of 3.4 percent in the financial year 2020-21.
5. The pandemic reduced the household expenditure on food and non-food commodities and services it is declined by 27 percent in first quarter of financial year 2020-21.
6. Export of agricultural commodities has increased by 35 percent, fruit and vegetables by14 percent and Oil seeds by 10 percent. It is also expected that agricultural export would continue to improve in future.

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The Role of Physics in Sustainable Development

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Abstract:
Physics generates fundamental knowledge needed for the future technological advances, objects, knowledge, developers, uses and the world view the behalf about things and the values of things, that will continue to drive the economic engins of the world. Physics contributes to the technological infrastructure and provides trained parsonnel needed to take advantage of scientific discoveries.

Introductions:-

To overcome, The concept of sustainbility has grown from an initial focus on environ- mental aspects to include first economic and them broader social and political dimensions. Economic development that is conducted without depletion of natural resources. and inter- national policies should support sustainable development and is organizing principle for meet- ing human development goals while simultaneously the ability of natural systems to provide the natural resources and ecosystems services on which the economy and society dependend.

|Environmental degradetion, deplection of natural resources, pollutions of water bodies look of proper waste management and the destroying health level of people promoted many nations to comeout with legel fram works to the environmment at all levels. An important feature of this research centres on how social organization contains human rela- tionships with nature but also how social organization are shaped by nature.

The Main Theme

Physics seeks to find alternative solutions to the energy crisis experienced by both first world and developing nations. As physics helps the fielde of engineering biochemistry and computer science. professionals and scientists develop new ways of harnessing pre existy energy sources. and utinlizing new ones. This energy transition is altimetely connected with the concept of sustainable development which was defined by.

1.United naitons Brundf land commission (in 1987)

2.As development which meets the needs of present without compromising the ability of future generations to meet thair own needs - 27 april 2017

3.The running head use of physics in daily activities that involves the study of forces and their interactions with the environment - 20 jan 2017

4.Theory of relativity applications in real world in introduction one of mytery of MUONS created in upped atmosphere - 07 feb 2017

5.Physcis is a science that deals with the study nature of basic things poverty and the degradation of environment that face the human race. 10 jan 2014

6.The policy decisions and management practices technology- energy -efficient methanol powered fuel cell car - 24 mar 2012

7.Sustainable development as development that meets the needs of the present without compromissing the ability of nature generations to meet their own needs (United Nation General Assembly 1987 P-43)

8.The concept of sustainable development was first framed in United Nation comference of Herman development in the year 1972 at stockholm.

Physics also provides a basis for understanding the dyanamics interaction between the atmospheric and the oceans and for the study of shart term weather and long term climate change much of physics in the study of energy lies at the heart of important environmental essues and is broad with many areas of specilization including environmental physiciests apply. It is the priciple of fulfilling human need while sustainity the natural system in this way human needs a living condition without damaging the natural resources. Now this concept focus on social development and protection of environment.

Mainly the term sustainable is broadly used to indicates programs initiatives and action, aims at the presentation of a particular resource however it actuly depends on the four disting areas 1.Human, 2.Social, 3. Economic 4. Environmental

The world needs secure resources of ford and energy

1. Maintenace of genetic diversity

2. Combating soil degradation
3. Controlling deforestation and over grazing
4. Arresting the spread of deserts
5. Abating environmental pollution.

The principles of sustainable development are as follows.

1. Conservation of ecosystem
2. Development of sustainable society
3. Conservation of biodiversity
4. Control of population grouwth
5. Development of human resources
6. Promotion of public participation

Applications of environmental physics : Carrers open to those with the environ- mental physics options include technical positions related to remote sensing, air qualify moni- toring and control atmospheric modeling and the study of climate and weather. Sustainable development goals in physics: The goals (SDGS) to transform our world. 1. No poverty. 2. Zero hunger 3. Good health and welt being 4. Quality education 5. Gender equality 6. Clean water and sanitation 7.Aflordable and clean energy 8. Decent work and economic growth etc.

Conclusion

Physics also provides a basis for understanding the dynamic interaction sustainability in physics concepts to topics applicable to the real world and our interest to students. Sustainability issues are in fervently interdisciplinary. This great way to link standard physics concept to topic applicable to the real world and of interest to student. On sustainability goal to a healthy environments economic profitability, social economic equality for every person play a role in ensuring a system. There are many people working in sustainable system and collection of practices and process of negotiation a push and pull between the competing interests of indi- vidual. Every aspect of a development projects must have environmental outlook. On the whole for sustainable development we need a holistic approach to have on environment for everyone to be happy today and tomorrow.

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An Analysis of Sustainable Agriculture Development in India

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The FAO definition of Sustainable Agricultural Development is the management and conservation of the natural resource base and the orientation of technological and institutional changes in such a manner as to ensure the attainment and continued Satisfaction of human needs for present and future generations, (FAO).

Abstracts

Over decades of science and practice several key sustainable farming practices have emerged for example: Rotating crops and embracing diversity. Crop diversity practice include Intercropping (growing a mix of crops in the same area) and complex multiyear crops rotations, planting over crops. Agriculture often places significant Pressure on natural resources and environment. Sustainable agricultural practices are intended to protect the environment, expand the Earth's natural resources base, maintain and improve soil fertility. Sustainable agriculture integrates three main goals **Environmental health**, **economic profitability,** and **Social equity.** A variety of philosophies, policies and practices have contributed to their goal, but a few common themes and principles weave through most definitions of sustainable agriculture. By adopting sustainable Practices, farmers will reduce their reliance non-renewable energy, reduce chemical use and save scare resources, keeping the land healthy and replenished can go a long way when considering the rising population and demand for food.

Key wards:-*Sustainable, Environmental, Ecology, Biodiversity Agriculture.*

Introduction

Sustainable Agricultural Development is the idea that human societies must live and meet their needs without compromising the ability of future generations to meet their own needs. The official definition sustainable agricultural development was reportedly coined by the Australian agronomist Gordon McClymond. The terms became popular in the lake 1980's. The Sustainable Agricultural Movement Begins during the 1950's and 60's. At the same time that the Green Revolution was exporting modem high technology agriculture around the world, a counter movement was beginning sustainable in the sustainable agricultural movement. Sustainable agricultural movement is at the heart of the 2030 Agenda and first fundamental step to securing zero, hinges, while many of SDGs address issues related to agriculture, there has been Considerable discussion over the past 40 years on how to define sustainable agriculture. As an agriculture contributes to development - as an economic activity, as a source of livelihood and as provider use of environmental services - the 2030 Agenda Suggest that all sectors, including agriculture, be considered from three dimension of sustainability: **Economic, Social, and Environmental.**

Sustainable development agriculture indicator defined as the proportion of agriculture area under productive and sustainable agriculture is no different in the part, it had been defined primarily along environmental criteria. If the soil was bad or if water was not managed well, then a farm might have been considered unsustainable. In recent years, however, there has been a realization that being sustainable reaches much further, to include economic and social dimensions, and Putting farmer in the centre of a farm is not economically sound or not resident to external Shocks, or if the wellbeing of those working on a farm are not considered than a farm cannot be sustainable.

Objectives

1. To Study the Sustainable agriculture production
2. To study the Solving the food problem of nation

Research and methodology

The present study totally depends on the secondary literature information is obtained from the various sources. The information is collected from various literacy and philosophical articles and philosophical books are main source for this article. It includes search reference books of literature which are related to the research paper.

Significance of the Set Study

The role of Agricultural sector in Indian Economy can be seen throughout its Contribution to GDP (Gross Domestic product) and employment. This sector also contributes significantly to sustainable economic development of any country. There depends upon the judicious mix of their available natural resources. In fact, agriculture determines the fare of a country like India where about two thirds of

population still live-in rural India with agriculture as its livelihood, in spite of the increasing urban that has been taking place, since many decades, there for agriculture goes wrong. It will be really bad for the economy as the falling of agriculture growth not only effects employment but GDP too (thus increasing poverty) The larger object for the improvement of agriculture sector can be realized through rapid growth of agriculture, which depends upon increasing the Cultivation, cropping intensity, and productivity. But for a country like India increasing productivity is more important than the rest of two. This is simple because of increasing urbanization, industrialization and the limited land size of the country.

Green Revolution:(1966-1969)

Sustainable agriculture is the system of raising crops for greater human utility through utilization of recourses with better efficiency without disturbing, imbalancing of polluting environment. India has achieved green the with evolution due to the increased use of high yielding variety Seeds.

The productivity can be increased by two ways; First, increase output by efficient utilization of available resources, second increasing output by variation of input. The first method is better with respect to productivity and sustainability. But due to increasing population, this method cannot provide permanent solution. Thus, we can go for the second method in the economy and effect its sustainability.

Sustainable Agricultural Development

The issues of sustainable development can be discussed under three broad types of farming system v/z traditional production system, modem agriculture system and sustainable agriculture system. Further We can compare them across three dimensions ecological, economic, and social sustainability.

The concept of sustainable development was first formed in the United Nations, Conferences on Human Development in the year 1972 at Stockholm in which ecology, environment and poverty Cantered the global attention. A conceptual breakthrough on sustainable development gained significance after the release of the book titled "Our Common future" for the conservation of natural resource and energy, in the year 1987 at the world conferences on environment and development held at Rio-de janerio. The report known as the Brundtland Report, named after the Norway's farmer prime minister Gro Harlem Brundtland, achieved attentions in the agenda for development of all the nations. Sustainable development is achieving economic development without duplicating or exploiting natural resources. It is a principle of fulfilling human need while sustaining the natural system. Sustainable development is the way in which human needs and living condition are met without damaging the natural resource. Now this concept focus on social development and protection of environment.

The Brundtland Report defined "*sustainable development that meet the needs of present without Compromising the ability of future generation to meet their own needs".* The sustainable development goal to **end hunger**, achieve food Security and improved nutrition and promote sustainable agriculture, empowerment of small farmers, gender equality eradicates rural property, promote the health issue of sustainable development can be discoursed under three broad types of farming system

1) Traditional production System
2) Modern agriculture systems.
3) Sustainable agriculture systems.

Further, we can compare them across three dimensions: Ecological, Economic and Social Sustainability. Ecological Sustainability most of the traditional and conventional form practices are not ecologically sustainable. They misuse natural resources, reducing soil fertility causing soil erosion and contribution global climatic change. But the sustainable agriculture has some major advantage over tradition practices.

Soil Fertility: Continuous fall in soil fertility is one of the major problems in many parts of India. Sustainable agriculture improves fertility and Soil Structure.

Water: Irrigation is the biggest consumer of fresh water, and fertilizers and pesticides contaminate both surface and ground water. Sustainable agriculture increases the organic matter Content of the top soil, thus raising its ability to retain and store walls that fall as rain.

Biodiversity: Sustainable agriculture practices involve mixed cropping, thus increasing the diversity of crops producing and raising the diversity of insects and other animals and plants in and around the field.

Health & Pollution: Health and Pollution, chemical pesticides, and fertilizer badly affect the local ecology as well as the population indiscriminate use of pesticides improper storage etc. may lead to health problems. Sustainable agriculture reduces the use of hazardous chemical and controls pests.

Land use pattern: Over an exploitation of land. Causes erosion, landslides, and flooding chogs. Irrigation cannels and reduces the ability of land. Sustainably agriculture avoids these problems by improving productivity, conserving Soil etc.

Climate: Conventional agriculture contributes to the production of greenhouse gases in various ways like reducing the amount of carbon stored in the soil and in vegetation through the production of Methane in irrigation field and production of artificial fertilizers etc. By adopting sustainable agriculture system, one can easily overcome this problem.

Economic Sustainability: For agriculture to be sustainable, it should be economically viable over the long term. Conventional agriculture involves more economic risk than sustainable agriculture in the long term. Sometimes governments are inclined to view export-oriented production systems as a more important than supply domestic demands. This is not right, focusing on exports alone involves hidden cast in transport, in assuring local food security, etc. Policies should treat domestic demand and particular food security as equally important to the visible trade balance. It is a popular misconception that specific commodity promises high economic returns. But market production implies curtain risks as markets are fickle and change Quickly. Cheap foreign food may sweep in to the national market. As a world trade organization signatory, the Indian government is under Pressure to deregulate and open its economy to the world market so it cannot protect its farmers behind tariff walls. The main source of employment for rural people is farming. Trend towards Specialization and mechanization may increase narrowly measured efficiency but they reduce employment on the land. The welfare cost of unemployment must be taken into account when designing national agriculture with its emphasis on small scall, labour intensive activities, helps overcomes these problems.

Social Sustainability: Social sustainability is farming techniques is related to the ideas of social acceptability and justice. Development cannot be a sustainable unless it reduces poverty. The government must find ways to enable the rural poor be benefit from agriculture development, social injustice is where some section of the society is neglected from development opportunities. But having robust system of social sustainability can bridge the gap between "haves and have nots". Many new technologies fail to become applicable in agriculture sector due to lack of acceptability by the local society. Sustainable agriculture practice is useful because it is based on local, social customers, traditions, etc. Because of being familiar the local people are more likely to accept and adopt them. Moreover, sustainable agriculture practices are based on traditional know-how and local innovation, local people have the knowledge about their environment crops and livestock. Traditional agriculture is more gender absented, where woman bear the heaviest burden in times terms of labours. Sustainable agriculture ensures that the burden and benefits are shared equitable between man and woman, while conventional farming focused on a few commodities, sustainable agreed time improve food security by improving Quality, nutritional value of food, and by producing bigger range of products throughout the years. Traditional farming was also driven by the cast and wealth-oriented people. The rich and the higher castes benefited more, while the poor and lower castes are left out. Sustainable agriculture attempts to ensure equal participation which organizes the voice and speech of every people.

Indian agricultures goals for sustainable development

The goals for sustainable development are listed in the document titled the future we want presented in the united nation conference on sustainable development;

- eradication of poverty
- zero hunger
- good health and well being
- quality education
- gender equality, clean water and sanitation
- affordable and clean energy
- decent work and economic growth
- innovation and infrastructure reduced inequalities
- sustainable cities and communities.
- responsible consumption and production
- climate action
- life below water
- life on land
- Peace, justice and strong institutions

- partnerships of achieving the goals

Sustainable Development and Agriculture

The world of globalisation has brought in modern technology which has led to the development of industries but still agriculture plays dominant role in the process of economic development of India. The development of agriculture farms integral part of development other sectors to a considerable extent. Agriculture provides food to the people, employment to labours, promotes rural savings and investment, impute for agro-based Industries play a measure role in populations of India, more efforts and innovations are required to meet the rising demand for food and this has enhanced the need for increase agricultural production, reduce food wastage and loss, and also ensure the availability of food for the entire nation. Thus, the role of agriculture is inevitable for the development of an economy and nature is a significance factor for its growth sustainable agriculture is farming without compromising on nature, duplicating or exploiting natural resources and also understanding the inter-dependency of living organisms has defined sustainable agriculture as the management and conservation of resource based. The orientation technological and institutional changes in such manner that ensure attainment and continued satisfaction of human needs of present and future generations. It follows that sustainable agriculture is that path of agriculture development which is environmentally non-degrading, technologically viable and socially acceptable (FAO-1991). Excess use of Chemical fertilizers, Pesticides, filling of soil, salinization causes damage to soil fertility which makes soil enable reduced productivity.

Elements of Sustainable Agricultural Development

The main components of both sustainable forming and conventional farming are exactly the same soil management, crop management, water management, disease/ pest management and waste management. It is the method used that are often radically different. We'll discuss them in order, starting with Soil management.

on a conventional farm, managing and maintaining soil fertility is as simple as running a soil test and applying the recommended doses of nitrogen, phosphorus, potassium and other nutrients to meet crop needs. In sustainable agriculture, soil fertility is maintained and improved through a careful rotation of crops and generous amounts of compost and green manure, which are cover crops that are flowed back into the soil to enrich organise matter.

- Supply of nutritious food and ensure health of people
- Reducing wastage of food and achieving food Security
- Develop new cultivation models to help and support small and marginal farmers and women to help and support which enhance rural income and lead to rural development
- Preserving and Conserving environment through principles of efficient utilization of resource and reduce the carbon emission that damage environment and human health
- long term investment in agricultural resources

Summary

Practitioners of sustainable agriculture seek to integrate three main objectives into their work: a healthy environment, economic profitability, social and economic equity. Every person involved in the food system-growers, food processors, distributions, retailer's consumer, and waste managers can play a role in ensuring a sustainable System.

There are many practices commonly used by people working in sustainable agriculture and food systems. Growers may use methods to promote soil health, minimize water use, and lower pollution levels on the farm. Consumers and retailers concerned with sustainability con look for "values bared", food that is grown using methods promoting farmworker wellbeing that are environmental friendly or that strengthen the local economy. And researchers in sustainable agriculture often cross disciplinary line with their work, combining biology, economies engineering, chemistry, community development and many others.

The goal of Sustainable agriculture is to meet society's food and textile need in the present without compromising the ability of future generation to meet their own needs.

-Brundtland Report

However Sustainable agriculture is more than a collection of practices. It is also process of negotiation a push and pull between the same time competing interest of individual farmers of people in community, as they work to solve complex problems about how we grow our food and fibre.

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The Role of Sustainable Development Solutions Networks (SDSNs) in the Protection of the Environment

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Introduction:

SDSNs comprise research and educational institutes that promote practical and integrated approaches towards the implementation of the SDGs, such as decarbonization strategies, ways of **sustainable** land-use and food systems and tracking of bilateral spillover effects globally.

The case for SDSN Black Sea : In 2015, the United Nations adopted the 2030 Agenda for Sustainable Development – "a plan for people, planet and prosperity", which includes 17 Sustainable Development Goals (SDGs) that service as a roadmap for the national and international policies that should be implemented to achieve a better and more sustainable future for all. Society, Economy and Environment are the three pillars for sustainable development, therefore, environmental protection is expressed directly through Goals 13 (Climate action), 14 (Life Below Water), 15 (Life on Land) and indirectly through Goals 7 (Affordable and Clean Energy) and 11 (Sustainable Cities and Communities). Achieving the SDGs in an interdependent and interconnected world cannot be done only by domestic actions, but also by efforts at the international level. Thus, the Sustainable Development Solutions Networks (SDSN) were established. SDSNs comprise research and educational institutes that promote practical and integrated approaches towards the implementation of the SDGs, such as decarbonization strategies, ways of sustainable land-use and food systems and tracking of bilateral spillover effects globally. SDSNs consists of national, regional and thematic Networks. A newly established regional network is SDSN Black Sea, hosted by the Aristotle University of Thessaloniki, which seeks to promote actions for sustainability in the wider area of the Black Sea.

In September 2000, during the Millennium Summit which took place at the UN Headquarters in New York, world leaders adopted the United Nations Millennium Declaration, committing to fight poverty, hunger, disease, illiteracy, environmental degradation and discrimination against women. The Declaration set out a series of time-bound targets with a deadline of 2015, known as the Millennium Development Goals (MDGs).

The eight Millennium Development Goals are:

The MDGs marked a historic and effective method of global mobilization to achieve a set of important priorities worldwide (Sachs, 2012). According to the Millennium Development Goals Report (2015), extreme poverty has declined significantly, as in 1990, the extreme poverty rate in developing countries was 47%, whereas in 2015 the same rate was 14%. Furthermore, the number of people working middle class has almost tripled between 1991 and 2015. As far as Goal 2 (achieve universal primary education) is concerned, primary school enrollment has reached 91% in 2015, up from 83% in 2000. The 17 Sustainable Development Goals (SDGs) are:

Acknowledging the urgency for action regarding sustainable policies worldwide, after Rio+20, the then UN Secretary-General Ban Ki-moon tasked the well-known and respected economist Jeffrey D. Sachs to create a global network of sustainable development problem solving. Thus, the UN Sustainable Development Solutions Network (SDSN) was set up in 2012.

SDSN: Goals and Actions : The SDSN pursues to connect the world's academic, research and knowledge-generating institutions in order to help them realize the Sustainable Development Goals (SDGs) and the Paris Agreement. Currently, over 1200 member institutions in more than 100 countries work on research regarding the implementation of the SDGs in a national and/or regional level through practical and feasible solutions.

Sustainable Cities: Inclusive, Resilient and Connected

This Thematic Network's aim is the identification of practical solutions for improving urban management.

Climate and Energy

SDSN has undertaken a lot of research regarding Climate and Energy. Its projects include:
the Deep Decarbonization Pathways Project (DDPP), which prepared national low-emission development pathways to 2050 with limiting the rise in global temperatures below 2oC, as stated in the Paris Agreement. DDPP along with Deep Decarbonization Pathway (DDP) are designed to help stakeholders engage in sufficient discussions to proceed with short-term national climate policy (Bataille et al, 2016)

Good Governance of Extractive and Land Resources

The group's main work is the better usage of resource endowments, including land for sustainable development. One of its more recent publications is "Mapping the Renewable Energy Sector to the Sustainable Development Goals: An Atlas", which intends to serve as a "guide for renewable energy developers, operators and investors, as well as their government partners, to maximize the renewable energy sector's contribution to the SDGs".

Health for All

This Thematic Network conducts research regarding the implementation of SDG 3 worldwide, in order to address health challenges. Its work includes the "Global Nutrition Report 2018", where five steps are needed to meet the 2030 target of ending malnutrition in all its forms (Fanzo J. et al, 2018)

Food, Agriculture, Biodiversity, Land and Energy (FABLE)

The FABLE Consortium aims at understanding the ways that countries can transition towards sustainable land-use and food systems. FABLE consists of 22 country teams, which work on developing data and modeling infrastructure to promote integrated strategies towards sustainable land-use and food systems. Consortium's work includes but is not limited to the Nature Map Explorer, an interactive map, which provides a set of integrated global maps on biodiversity and ecosystems services based on the best available scientific data and Growing Better Report.

Sustainable Agriculture and Food Systems

Its aim is to connect experts and practitioners to turn knowledge in to practice for achieving SDG 2: Zero Hunger.

SDG Financing Initiative

This working group convenes sector experts to aggregate their respective costing models and data for SDG targets, especially for low-income countries. Its work includes, but is not limited to the Report "SDG Costing & Financing for Low-Income Developing Countries", which examines the fiscal burdens facing the Low-Income Developing Countries (LIDCs) and the ways to close the resulting budget gap.

Thematic Research Network on Data and Statistics (TReNDS)

TReNDS convenes experts to catalyze learning and investment in the data revolution for development. TReNDS's work strengthens the data ecosystem, improves learning on data sharing and informs investment in emerging data opportunities. Its flagship series "Counting on the World" explores the ways to harness data revolution for sustainable development, while its projects "Data for Now", "POPGRID" and "Contracts for Data Collaboration (C4DC)" seek to improve the overall quality of SDG data and to strengthen the accountability of cross-sector data collaborative.

The World in 2050 (TWI2050)

TWI2050 was launched by the International Institute for Applied Systems Analysis (IIASA), the SDSN and the Stockholm Resilience Centre (SRC) and seeks to provide fact-based knowledge to support the policy process and implementation of the SDGs. Its report "Transformations to achieve the Sustainable Development Goals" explores the current trends that encourage and threaten the achievement of the SDGs.

The SDG Academy

SDSN main belief is that research and education play an important role in SDGs implementation. Thus, the SDG Academy was created. In this MOOC platform experts from all around the globe create and deliver educational content on critical issues Furthermore, SDG Academy hosts its own Library, a searchable catalog of all course videos.

SDG Index and Monitoring

Since 2015, SDSN partners with Bertelsmann Stiftung to assess progress made towards SDG achievement at national and local level. The report uses official SDG indicators endorsed by the UN Statistical Commission and where insufficient data is available for an official indicator, other metrics from official and unofficial providers are included in order to provide "the most up-to-date metrics to gauge the performance of countries on the SDGs" (Sachs et al, 2019).

SDSN Youth

In 2015 SDSN launched its official youth initiative, SDSN Youth. Its purpose is to involve young people globally in the implementation of the SDGs through empowering them to create sustainable development solutions.

SDSN Black Sea - Index Report and Trends :

Since 2018, the Aristotle University of Thessaloniki hosts one of the newly established regional networks, the SDSN Black Sea. Its vision is to unite people of the wider Black Sea region under the goal of sustainable development. Typically, the Black Sea Region has been characterized by its cultural diversity and countries which have historically been in direct or indirect conflict. The network aims to unite the people to join forces to improve their lives while ensuring a peaceful, prosperous and sustainable future for all.

The participating institutions are currently based in twelve countries: Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, Romania, Russia, Serbia, Turkey and Ukraine.

Since its establishment,

Who can join the SDSN? : Any non-profit knowledge-generating institution is free to join the SDSN. Membership is open to universities, research centers, civil society organizations and any other knowledge center which can offer expertise on sustainable development.

Why join the SDSN? : SDSN is a vast network of esteemed knowledge centers focused on providing feasible and practical solutions for achieving the Sustainable Development Goals (SDGs) in a local or a regional level. By joining the SDSN, any member can participate in national or regional initiatives launched by SDSN members and develop its own ideas into actions.

Conclusion:

The Sustainable Development Goals (SDGs) were created to replace the Millennium Development Goals (MDGs) in order to meet the needs for sustainable development. While the latter focused mainly on the fight against poverty, the SDGs focus on a set of various aspects which portray sustainability and refer to its three pillars: Society, Environment, Economy. Such Goals are "Zero Hunger" (SDG 2), "Quality Education" (SDG 4), Responsible Consumption and Production (SDG 12) and "Climate Action" (SDG 13). To ignite and promote research about their implementation the Sustainable Development Solutions Network (SDSN) was set in 2012. Since then, SDSN operates with 35 National and Regional Networks across the globe, which join forces to research feasible sustainable solutions on a national or international level.

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Sustainable Development: Some Computer Science Issues

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Global change is creating enormous challenges for humanity. The world's population is expected to grow to 8.5 billion by the year 2025. Global energy requirements will continue to increase. The newly industrialized countries of Asia and Latin America are experiencing very rapid economic growth that is bringing modern societies environmental problems, including air and water pollution and waste problems to wider areas of the globe. Although financial and economic markets are becoming more and more interconnected and we like to think in terms of global village. Our efforts to enshrine environmental protection and development as a common task and responsibility of all countries have just begun to make headway.

The key aim for the 21st century is 'Sustainable Development', which the international community embraced at the 1992 UN conference on environment and development sustainable development seeks to reconcile environment protection and development. It means using resources no faster than they can regenerate themselves and releasing pollutants to no greater extent than natural resources can assimilate them.

If we are to move toward sustainable development, the industrialized countries will have to accept special responsibility not only because of their past ecological sins, but also because of their present technological know-how and financial resources. One must keep in mind that sustainable production and consumption must follow the goals of sustainable development.

In the present paper, the author will discuss the specific roles of computational science in achieving some of the goals of sustainable development.

Global Energy Consumption :

The climate groups recent report argues that computing technology could facilitate significant reduction in worldwide energy use, equalling as much as five times projected growth in computational power consumption. Energy saving could be accomplished through recent or future innovations in motor system, transport and storage logistics, power grids, building design, management and automation.

Computers interactive nature provides an additional opportunity for energy reduction by educating people, creating new ways of being, and changing behaviour. For example, Columbia University's Educational Global Climate Modelling Software enables high school and university students to visualize climate change at home and in the classroom.[01] This is possible because today's personal computers can run older climate models.

In 2006, Chicago Centre for Neighbourhood technology helped reduce summer electricity usages by 3 to 4 percent by providing local household an ambient orb, that displays the real time cost of energy.[02]

Widely popular social networking websites such as Facebook provide yet another lever to modify the energy consumption habits of millions of people.[03]

Networks :

Smarter networking can likewise reduce communication costs, for example, intelligent routing protocols can reduce energy consumption in idle times during data transmission and receptions.[04] Although much of the original work in energy-aware communication comes from the wireless domain, researchers have lever-aged these techniques in the wired domain. Protocols such as Adaptive Link Rate use machine learning to lower desktop computers energy consumption by reducing Ethernet transmission rates when utilization is low.[05]

Data Centres :

Server based systems that supports many different remote individuals require a different set of power management strategies. Although managing energy in a data centre might seem to be a matter of scale, researcher at H. P. Labs have shown that, it is also necessary to consider the machine's thermal properties. Machines should consume energy in proportion to the amount of work performed. However, achieving this goal in large data centres could significantly affect performance. A recent Microsoft request for proposal highlights additional research needed to create power aware systems. This include benchmarks and metrics, integration and cooperation across system layers, advances in scientific computing and visualization, and innovations in everything from the physical layout of data centres to the structure of the average computers, for example, substituting flash memory for other types of memory.

Electronic Waste :

Almost as daunting as computing devices growing energy consumption are the high costs associated with their production, support, upgrading and retirement. Beyond the numerous resources used in product life cycle – including water, fuel and electricity is difficult to measure but often divesting impact computer related waste has on human populations and the environment. A Recent Basel Action Network report predicts that the US alone will retire approximately 3 billion, units of electronics, primarily computers, monitors and TVs by 2020. Companies dump much of this in developing countries exposing millions of people to dangerous toxins.

Conclusion:

Computer scientists can help to reach the goals of sustainable development such as mitigating the direct negative impact of computers such as their power consumption, economic and social costs, with the manufacturing, maintenance and disposal of components. The other two relate to the indirect positive impact of computers, their ability to increase energy efficiency by charging systems and ways of being to potentially reduce world carbon emissions.

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Role of Libraries in Quality Education

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Abstract:

Now a day's whole world are suffering from pandemic situation due to Covid-19, so students takes education from online process. Academic libraries plays an important role to provide online services and study materials to students. It change himself and full fill the needs of users.

The modern libraries and information centers encompass variety of documents with nature of adding, analyzing and repackaging. Library is a place where users can read according to their interest without any restriction, they are growing alongside information technology which has restructured and reshaped the role of libraries to creating access and provide latest information for quality education. The library is regarded as an internal part of an institutions. We cannot deny the role and importance of academic libraries in quality education, we cannot expect quality education without good library.

To improve the quality and infrastructure of academic libraries in India national organization i.e. Government of India, Ministry of Human Resource Development (MHRD), University Grants Commission (UGC), National Accreditation and Assessment Council (NAAC), National Knowledge Commission (NKC) and other educational commissions provided importance guidelines.

Key words: Libraries, Academic Libraries, Higher education, Information technology.

Introduction:

Library is the product of our cultural maturation, they are recognized as the carrier of information, resources, cultural, civilization from one generation to another. In the earlier period libraries are only storehouse of books which were more meant of preservation than the utilization of books. But now a days the role of libraries is totally changed through information communication and technology, now libraries become a power house of information, where users full fill their needs without any problems. E-books, e-journals are very popular in the ICT period, its play a vitol role of life long self-education.

Libraries are real source of knowledge and no education can be regarded as perfect and fruitful without libraries. The presence libraries having huge and valuable book collection which is the foundation of quality education. Many times everyone doesn't buy every books due to the cost of books and vast amount of literature published every year. So they changed the conditions, objective and method in higher education, so students more depends on libraries.

Academic Libraries and Higher Education:

Libraries are the most important part of any institutions to develop and support information, learners who can research, access and use of information effectively for academic success. It contributes to the national development through dissemination of quality information and skills.

The Indian Government constitutes a various education commissions and committees to develop a level of higher and quality education. UGC, AICTE and Kothari Commission are one of them. Quality education gives opportunity to an individual knowledge which is very important role in personal life, so an academic library forms an important part of the teaching process in higher and quality education. The students receive education from the institutions, where libraries provide various and effective services which is helpful for personality development, they contributes to develop our country.

Academic libraries not only for student but also meets all educational and research needs of teaching faculty. The present education system is student oriented rather than teacher oriented. They are learning by own interest and capacity. Importance of class lectures has been reduced and self-study education based on supplementary and collateral reading of original thinkers have become accepted mode of the day.

Role of Academic Libraries in Quality Education:

The aim of quality education, to makes good and moral citizens. Libraries are the repositories of knowledge and form an integral part of education. Today's digital and virtual libraries are used latest technology for provision of dissemination of information through various services. Accordingly, librarians have also changed their roles, who find themselves information in vast ocean and provide satisfying to user's needs. With the help of ICT, the old nature of libraries has changed dramatically, latest and advanced computers are being used in libraries to process the library activities.

As a result, the traditional concept of library is surrounded by net worked data that is connected to vast ocean of internet based services. So electronic resources is more relevant for the developing libraries.

Academic libraries are considered to be the nerve centers of institutions, and support teaching, research and other academic activities. The situation in academic libraries in our country and world over is near about same, however, Indian libraries must provide maximum information with limited resources.

In context of higher education, quality is multidimensional. The functioning of the library is looked as one of those dimensions. The status of the academic library impact up on the accreditation process of a higher educational institute NAAC. It does the assessment of the academic library which is regarded as an important area and its evaluation reflects on the grade provided by the institutes. Due to the vast changes in curriculum the demand of the readers has also changed. To full-fill the demand of users, library must be up to date with collection. The library which cannot satisfy the need but it is having a huge collection then also it is no use for users. Thus libraries cannot improve the quality of higher education.

Standards of Academic Libraries:

To achieving the goal in higher and quality education, some standards are designed for the academic libraries to guide and sustaining role as partners in educating students, achieving their institutions objectives, and positioning libraries as leaders in assessment and continuous improvements on their campuses. Libraries must demonstrate their value and document their contributions to overall institutional effectiveness and be prepared to address changes in higher education.

In the year 2006 NAAC published one article and explained its efforts towards quality. Further they recommended that NAAC should hold a national seminar on best practices in academic libraries every year. The participation in the conference should be paper presentation. Selection of papers for presentation is subject to peer review. Academic libraries are part of the large academic bodies in higher education, generation, organization and dissemination of information and knowledge are subject to constant charge since 1980.

Most Academic libraries have the facility of internet resources which supplement the print collection of the library. These changes are substantial. The problem with us is that many changes we come across. We immediately take it as a part of routine. Internet facility helps in saving time, repetition and redundancy, time lag and delays. We can communicate with information service providers within no time in case of any problem, change or adding new things to existing collection or services.

Indian Educational Commissions: (Recommendation for libraries).

After independence Indian Government has constituted various commissions for the formulation of educational policy. Some of the commissions have given most importance on libraries for quality education as an academic institution cannot be regarded as complete without the existence of a library. From the very beginning of civilization library is understood as an inseparable elements of educational system.

a. **Hunter Commission**- In 1883 this commission give wide and comprehensive recommendation on libraries of higher education. The commission gives emphasized on academic libraries which are imparting higher education should be given sufficient grants for libraries.
b. **Kothari Commission**-In 1966 this commission reports highlights on importance of the libraries. "No university or academic or department should be set up without taking into account its library needs in terms of staff, books, journals, space etc. Nothing could be more damaging to a growing department than to neglects library or to give its low priority on the contrary the library should be an important centre of attraction on the academic or university campus".
c. **Radhakrishnan Commission-**In 1948 the Radhakrishnan commission on higher education started that the development of academic and university libraries in general in India is not quite satisfactory. Library is a part and parcel of educational institution and the libraries is a helping guide and counselor to the users.
d. **The Indian University Act-** In 1902 this act recommends the establishment of libraries in higher education with a good number of collections to improve the quality of higher education in India.

Higher education experts are much concerned about quality of education provided by the universities and academics in India. It is found that the education is not proportional with the fees paid by the students in the higher educational institute. To check this issue, Govt. of India, UGC, NAAC and INFLIBNET are seriously concerned to improve standard of education and establish best practices in higher educational institutes and in their libraries.

MHRD: (Ministry of Human Resource Development)

The ministry of human resource development (MHRD) given all most importance on academic libraries in higher education in India. To improve the quality of education, MHRD has set up the "Indian National Digital Library in science and technology (INDEST) consortium. In 2015 MHRD has merged

three important consortia in to E-shodh sindhu of INFLIBNET. These consortia are, UGC-INFONET Digital library consortium, INDEST-AICTE Consortium and N-LIST Programme.

UGC: (University Grants Commission)

UGC, established by an act of parliament in 1956. Coordinates and monitors the higher education system in India and provides grants to the universities and academics. The following universities in the country are directly under the purview of UGC.

- State Universities - 298
- Central Universities - 44
- Deemed Universities - 130
- Private Universities - 148

UGC frames rules and regulations for overall teaching and research at higher education. It also looks after the academic libraries, i.e. Standards of library education, library staff, services etc.

NAAC: (National Accreditation and Assessment Council)

National Accreditation and Assessment Council (NAAC) is responsible for ascertain the importance of academic libraries of India. NAAC inspects the academic institution and its library as an area to evaluate and assess the quality of in education renders by that institutions on basis of the report of the inspection, it provides grades to the higher educational institutes, academic and universities in India by inspecting the libraries of the same.

NKC: (National Knowledge Commission)

National Knowledge Commission has given emphasize on libraries, it has recommended in its report to nation for the creation of fifty new national universities in India that can provide education of higher standard and proposes the up gradation of infrastructure of libraries in a regular basis.

NCK also proposes the creation of a model library charter, a list of services to be performed by libraries, networks and a national repository for bibliographic records. In addition to this NCK has created national knowledge network (NKN) which helps to connect all universities, libraries, laboratories, hospitals and agricultural institutions to share data.

Conclusion:

The spread of education in society is at the foundation of success in the country which helps in bringing development to the country. There can be no doubt that higher education has made a significant of contribution to economic development, social progress and political democracy in independent India. Higher education helps in creating human resources for the country.it is a source of dynamism for the economy. It has provided a beginning for the creation of knowledge society.

A good academic library plays a vital role in creating the same. The primary objective of libraries is to organize and provide access to information and it remains the same although the format and methods have changed drastically.

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Sustainable Agriculture Development and Food Security in India

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Abstract*:*
Agricultural production provides income, employment and food for men as well as raw material for the agro processing industries, agricultural development path means sustainable agricultural development improving the quality of rural and urban areas ensuring enough food for present and future generation. Agricultural sustainability can be archived by utilization and implementation of technique of farming which would increase production of crops to meet demand of growing population. While at the same time it would conserve and protect the environment and its natural recourse. While food production at global level has been satisfactory in the last 50 years, recent approaches in a contest too agriculture development have not been impressive in achieving food security and insuring sustainability of environment. Therefore farming practices need 10 upgrade towards the use of biological agents in order to use of maintain the sustainability of agriculture and hence the environment. Sustainable agriculture seeks to increase profitable farm income promote environmental stewardship, enhance quality of light farm families and communities, and increase production for human food, fiber & fuel to meet the need of sharp living population and protection of the environment and expansion of natural resources supply. The sustainable development goal is to end to achieve food security and improved nutrition & promote sustainable agriculture. Empowering small farmers, promoting gender quality endive rural poverty, ensuring healthy lifestyles, tackling climatic change and other issues addressed.

Key Words: Sustainable, security, food, nutrition

Introduction:

Sustainable agriculture development means that development which answers efficient production of safe high quality agriculture products in a way that social and economic conditions of farmers, their employees, and local communities, safeguards the health. As demand for food increase, climatic change and ecosystem degradation impair new constrains, sustainable agriculture has an important role to play in processing natural resources having biodiversity loosed caring for valued landscapes.

Sustainable agriculture help the farmer innovate and employ recycling method this apart from the conventional perks of farming. A very good example of recycling in sustainable farming would be the crop waste or animal manner. Another method that can be employed is cropping rotate. The sustainable agriculture integrates three main goods **environmental health, economic profitably and social and economic equity.** The main components of both sustainable farming and conventional farming are exactly the same. Soil disease / part management and waste management its methods used that are often radically different. We will discuss them in order. Starts with soil management by 2030 ensure sustainable food production system and implement resident agriculture farmers that increase productivity and production that help maintain ecosystem that strengthen capacity for only adoption to climate change extreme weathers, drought, flooding and other disasters and that progressively improve.

Sustainable agriculture practice are extended to protect the environment depends the earth natural resource have maintain and improve soil fertility life for farm families and communities increase production for human food and fiber needs.

Sustainable agriculture development and food security integrates three main goals environmental health, economic prosperity and livelihood sustainability. In other words sustainability rest on principle that we must meet the needs of the present without compromising the ability of future generation to meet their own needs. These parts stewardship of both natural and human resources includes consideration of social responsibilities such as working and living conditions of farm families the needs of rural communities and commune's health and safety both in the present and the future, stewardship of land natural resource involves maintaining and enhancing their vital resource base for the long term.

Objectives:

1. To study the agriculture production in India.
2. To study the food grain supply to PDC through in India.

Research Methodology:

The study is based on secondary data which is collected through internet, book and newspapers. However some primary data is procured from concerned authorities in the study. Simple tools and techniques like percentage pie-chart, graphs, and table used to show comparison effectively. The

methodology is divided into two parts primary and secondary data collected in from the government offices, journals, articles, books, websites, internet etc.

The Significance of the Study:

The role of agricultural sector in Indian economy can be seen through its contribution to GDP and employments. The agriculture sector contribution GDP is 14% of nation total income and totally employment provided 50% in the Indian population. The agricultural sector food grain provides to 100% population the nation. The sector also contributes significantly. Sustainable agriculture and economic development of the country depends upon the judicious mix of their available natural resource. In fact agriculture determine, the fate of country like India where about two third of the population still lives in rural area with agriculture as its livelihood. In spite of the increasing urbanization, which has been taken place in many decades? Therefore if agriculture is goes wrong. It will be really bad for the economy as the following of agriculture growth not only effect employment but GDP too,(thus increasing poverty) the large objectives for the important of agriculture sector can be released through rapid growth of agriculture with sustainable development which depends upon increasing the area of cultivation cropping intensity and productivity. But for a country like India increasing productivity is more important than the rest of two (service sector and industry).This is simply because of increasing to urbanization, industrialization and the limited land size of the country.

The productivity can be increased by two ways, first increase output by efficient utilization of valuable resources. Second increase output by variation of input. Therefore there is need to tackle the issues related to sustainable agriculture development.

Its Main Aims:

1. Maintain the human needs of today and tomorrow with quality food.
2. Conserving the natural resource soil, water and biodiversity.
3. Economically valuable farming practice for enhancing the productivity.
4. Minimal impact on wide environment and society acceptability.

Need for Sustainable Agriculture Development:

We can compare three broad types of farming: Traditional production system, Conventional modern agriculture (such as green revolution, technology) and sustainable agriculture development, we can compare them a cross three dimensions ecological, economic and social (FAO, 2000)

Ecological Sustainability: Many traditional and most conventional farm practice are not ecology sustainable they over are natural and contributing or global climatic change. But sustainable agriculture has some major advantage over traditional practices. Sustainable agriculture development has several major advantages over both traditional and conventional practice.

1. Soil fertility- Continuous fall in soil fertility is a major problem in many parts of India. Sustainable agriculture development improves fertility and soil structures and prevent erosion would ensure to this problem.

2. Water- Irrigation is the biggest consumer of freshwater, fertilizer and pesticides contaminate both surface and groundwater, sustainable agriculture development increase the organic matter content of the top soil leading to refining and storing water that fall as rain.

3. Biodiversity- sustainable agriculture development practices involve mixed cropping. Thus increasing the diversity of crops production and raising the diversity of insects and other animals and plants in and around the fields.

4. Health and pollution- Chemicals, pesticides, fertilizers badly affect the local ecology as well as the population indiscriminate use of pesticides; improper storage etc. may lead to health problems sustainable agriculture development avails those problems by improving productivity conserving the soil etc.

5. Climate- conventional agriculture contribute to the production of green house gases in various ways like reducing the amount of carbon stored in the soil and vegetation through the production of methane in irrigated field and production of artificial fertilizer tec. by adopting sustainable agriculture system one can easily overcome

6. Economic Sustainability- For agriculture to be sustainable of agriculture development it should be economically valuable over long term. Sometimes government is inclined to view export oriented production system as more important than supply domestic demands. This is not right; focusing on exports alone involves hidden costs in transport in assuring local food security etc. Policies should treat domestic demand and in particular food, security as equally important to the visible trade balance.

7. Social Sustainability- Social sustainability in farming techniques is related to ideas of social acceptability and justice development cannot be sustainable unless it reduces poverty. The govt. must find ways to enable the rural poor to benefit from agricultural development. Social injustice is where some section of the society is neglected from development opportunities. But having Robert system of social sustainability can bridge the gap between "have and have not's" many new technologies fail to become applicable in agriculture sector due to lack of acceptability by the local society. Sustainable agriculture development practices are useful because it is base on local social customs traditions etc. because of being familiar, the local people are more likely to accept and adopt them. More over sustainable agriculture development practice are based on traditional knowhow and local innovation. Local people have the knowledge about their environment crops and livestock.

Food Security in India:

Food security entails ensuring adequate food supply people especially those who are deprived of basic nutrition. Food security has been a major concern in India. According to UN, India, there are nearly 195 million undernourished people in India, which is a quarter of the worlds hunger burden. Food security in India, public distribution system (PDS) is an Indian food security system established by the government of India under ministry of consumer Affairs. Food and public distribution and are managed jointly by state governments in India. It distributes subsidized food and non food items to Indian poor. Food security is required to ensure that each individual of a country has access to safe and healthy food at all times of the year During natural disaster the rates of food rise (due to shortage of food) food security ensures that food grains are distributed at cheap rates to the poor, so that they do not starve. India has made rapid strides in improving rates of under and malnutrition, between 2006 and 2016 starting in children below five year declined from 48% to 38% yet, India continuous to have one of the world's highest children under nutrition rates. Impact the child's health and development performance in school and productivity in adult life.

Food security is the availability to ensure on long terms basis that system provides the total population access to timely reliable and nutritionally adequate quantity of cereals available.

I. Making an adequate quantity of cereals available to all to ensure survival.

II. Adequate availability of cereals and pulses.

III. Food security to include cereals, pulses, milk and milk product. Vegetable and fruits (fish, Egg and meat in case of non-vegetarian).

India has now reached a stage where the country is no longer exported to real famine the same there still exist packets within the country where people have to face acute starvation year after year.

Availability of Food Grain: During 1950-51 annual net imports of cereals amounted to 4.1 million tones. The figure was 10.3 million tons during 1965-66 since then there was a decline and after 1995-96 India become an exporter of increases during the last 70 years there has been an increase in the per capita availability of cereals to the extent 9%. However, the country has failed to increase the production of all food grains with the need of the growing population. This is significant since the large number vegetarian in the country depend on all food grains for their protein requirement. The following table shows population availability food governments. Subsidies and per capita consumption as well as production of nation total food grains.

Access: Determined by the bundle of environment i.e. related to people's initial endowments. What they can acquire and the opportunities open to them to achieve entitlement sets with enough food either through their own endeavors or through state intervention or both.

Table No. I

Population, food grains, production yield and per day net availability of food grains

Year	Population Million	Production Million	Yield Kg/hectare	Per-day, Per Capita, net availability of food grains in (grams)
1952-53	369.2	59.20	580	384.5
1983-84	703.8	129.52	1035	454.8
2004-05	1085.56	174.77	1535	494.1
2009-10	1153.1	234.47	1909	436.0
2016-17	1273	248.47	1820	518.34
2017-18	1288	285.40	2141	545.0

Source: Government of India, Economic Survey, Internet, Websites of govt.,2019

Suggestion:

Sustainable agriculture is a process of farming use eco-friendly methods, understanding and maintaining the relationship between the organisms and environment in this process of agriculture and animal husbandry are combined in farm a simultaneously process and practice. In other words sustainable agriculture is an amalgamative of three main elements via ecological health, profitability and propagating equality. Before understanding the technology involved in sustainable agriculture it is important to know way we need it in the first place.

The concept in food security for all people or the state of physical and economic access to safe and nutritious sustenance has remained a pledge but distant goal of government, since the last 1970 to 1996 the world Food summit renewed a global commitment to reducing by half proportion of people experiencing hunger by 2015. Followed up by the millennium declaration of 2000 which applied the same target to the number of chronologically hungry people despite enshrining food as a universal human right in 1948 the intention community continues to fail in modest promises: by 2005 the extent of hunger was increasing at 4 million people a year and current prospect for the millennium Development goal on hunger remains pessimistic. World leader are being forced to seriously reexamine the intention approaches to food distribution.

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Eco-Criticism: A Literary Step towards Sustainable Development

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Sustainable development has emerged as a term which is used increasingly freely, although in reality, it is a deeply problematic term which different interest groups use in different ways to serve their own purposes. After all, its very coinage was a compromise between the development imperatives of business, and of countries in the global south heavily reliant on their natural resources for foreign exchange, with environmental conservation interests in the west. Shiv-Vishwanathan illustrates how 'sustainable' and 'development' are two concepts which "belong to different, almost incommensurable, worlds … sustainability in about care and concerned. It speaks the ethics of self-restraint".[01] It exudes the warmth of locality, of earth as home. Development is a genocidal act of control. It represents a contract between two major agents, between the modern nation and modern western science. The undeniable ambiguity of the term 'Sustainable Development' is not much in evidence in its everyday coinage.

Sustainable development is the organizing principle for meeting human development goals, while simultaneously sustaining the ability of natural systems to provide the natural resources and ecosystem services on which the economy and society is dependent. It is aimed at economic development that is conducted without depletion of natural resources. The sustainable development goals, also known as the global goals, were adopted by all United Nations Member States in 2015, as a universal call of action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030.

The 2030 agenda for sustainable development, adopted by UNO in 2015, provides a shared blueprint for peace and prosperity for people and the planet now and in the future. At it's heart are the 17 sustainable development goals, which are un urgent call of action by all countries, whether developed or developing in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth, all while tackling climate change and working to preserve our nature.

In the early nineties the seeds of environmental studies were sown with the publication of O. Waage's book 'Teaching Environmental Literature : Materials, Methods, Resources' which included course descriptions from nineteen different scholars and sought to foster "a greater presence of environmental concern and awareness in literary disciplines."[02] In 1989 Alicia Nitecki founded 'The American Nature Writing Newsletter, whose purpose was to publish brief essays, book reviews, classroom notes and information pertaining to the study of writing on nature and environment. During these years several special sessions on nature writing were conducted. The noticeable of these were, 'Ecocriticism : The Greening of Literature Studies' organised by Harold Fromn, in 1991, a symposium was held entitled 'American Literature Association and a new Association for the Study of Literature and Environment (ASLE) was formed with Scott Slovic as its first president. The mission is "to promote the exchange of ideas and information pertaining to literature that considers the relationship between human beings and the natural world and to encourage new nature writing, traditional and innovative scholarly approaches to the environmental literature and interdisciplinary environmental research."[03]

Cheryl Glotfelty defines ecocriticism as the study of the relationship between literature and the environment, ecocriticism takes an earth centred approach to literacy studies. Eco-critics and terrorists question the relevance of literature by raising questions such as, How is nature represented in a literary piece? Are the values expressed in it consistent with ecological wisdom? How do our metaphors of the land influence the course of work of art? Does it include the characteristics of nature writing? In what ways has literacy itself affected humankind's relationship with the natural world? In what ways and to what effect in the environmental crisis seeping into literature and culture? What bearing might the science of ecology have on literary studies? How is science open to literary analysis? What cross fertilization is possible between literary studies and environmental discourse in related disciplines such as history, philosophy, psychology, art and ethics?

Conclusion:

Eco-critical texts record their concern over extremist consumerism and desire expressed in various forms such as exploitation and exploration of natural resources, profit oriented entrepreneurs, illegal possession of land and atrocities on flora and fauna etc. eco-critical text also undertake to address these atrocities in terms of ecofeminist, eco-political, eco-religious and eco-educational perspectives. They also

deal with man's relationship with his place, his home, his country, his motherland particularly as it is depicted in relation to various problems around which the particular text in woven for its thematic unity.

The concept of sustainable development needs to be redefined by striking a chord of relationship between ecosystem and scientific concepts relevant to sustainability. Habitual assumptions in literary discourse about the balance and harmony of nature should be discussed in the light of scientific concepts.

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Problems and Prospects of Agriculture Development in India

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Abstract

India is agricultural based country. Nearly 67 percent of the Indian population is based on the agriculture. The agro-based industries are also dependant on agriculture sectors. Indian agriculture sector in facing lots of problems and it is obstacle for the development of agriculture sector and finally it affects on the Indian economy. Agriculture is primary activity which includes farming, fishing, wood cutting, and mining at marginal level. In Indian context the problems found which is geographical, economical, social and religious, and technological innovation etc.

Keywords: *Problems, Agriculture Development, India*

Introduction

Agricultural plays an important role in the development of Indian economy and having 17 per cent contribution in the national GDP and nearly 70 household population is dependant for their livelihood on the agriculture sector. Agriculture sector provides the food to every people and raw materials to the agro-based industries. So it is very important role in the industrial development of the country. Indian economy mostly based on this sector. Agriculture providing the works to population through labor in the agriculture sector but due to mechanization demand of labor is decreasing at very large scale and it leads to unemployment in the people. Indian agriculture is facing lots of problems from the long back which are general to particular in nature. Some problems are natural and some of manmade problems. Soil erosion, uneven distribution of rainfall, flood, drought condition, landslide in the hilly area, saline and alkaline soil, uncertainty in monsoon rainfall, weather related problems and insects and disease on the crops are the natural problems for the cropping pattern and ultimately for the development of agricultural sector. Social and economical problems are due to human interference in the agriculture which is irrigation development, capital investment and distribution problems are faced by farmers. Agricultural plays vital role in food supply, source of government revenue, industrial development, source of livelihood and contribution to the national income.

Problems of agricultural Sector

Agricultural sector is having lots of problems of natural process such as water logging, soil degradation, climate change, deforestation, biodiversity loss, land pollution, genetic engineering, soil pollution to natural activities and soil erosion etc.

Soil erosion:

Soil erosion is loss of upper productive layer of soil due to surface runoff, wind, plant and it leads to soil erosion and soil became unproductive. Monocropping leads to soil erosion because practice of growing the same crop on the same plot of land, year after year. This depletes the soil of nutrients and reduces organic matter in soil and can cause significant erosion. So it is need to change the cropping pattern and practice of agriculture to reduce soil erosion and maintain soil fertility. Soil erosion can lead up to 50 percent loss in crop yields.

Saline and alkaline soil

Saline and alkaline soil lack in nitrogen and calcium and have low water bearing capacity and it is reclaimed by improving drainage, by applying gypsum and lime, and by cultivating salt resistant crops like barseem, and dhaincha crops. Nearly 6.727 million ha area in India, which is around 2.1% of geographical area of the country, is salt-affected, of which 2.956 million ha is saline (Arora et al., 2016; Arora and Sharma, 2017).

Floods

Flood situation creates when catchment area of the river receives more rainfall during short period and rainwater coming out from the bank of river and spread over the surrounding area and its effects on the crop in that land as well as soil erosion and bank erosion also happen. Floods affected area facing the water logging from and it’s reducing the production of crops. In India many area are facing this type of problem.

Drought condition

Rainfall failure leads to drought condition. In India nearly all state are facing the drought problem and in the summer season crop are not getting the water for irrigation, well dry up and it is difficult to grow the crop. Agricultural drought is called crop are not getting water to grow. This drought condition leads to lower the crop production and it adversely affect on the production of fodder also so it cause to livestock also.

Climate change

Any plant can survive in the favorable condition; adverse climate is not suitable for the agriculture. Crop growth is not possible in very hot and very cold climatic condition. So in the desert region and clod, snow covered region there are no agricultural practices. Due to human interference and increasing burning of fossil fuel, large quantity emission of different harmful gases causing global warming, and green house effect. The negative impact of global warming leads to reduce crop quality and quantity. Increasing earth surface temperature is not suitable the agricultural practices it leads to increase the pest and different diseases also.

Irrigation facilities

Irrigation is artificial supply of water to the plants. For the irrigation purpose government built dam, and canal system on the river and provide water to the agriculture sector. In India nearly 48.8 per cent of the 140 million hectare (mha) of agricultural land is under the irrigation and remaining 51.2 per cent is rainfed agriculture and it's totally depends on the rainfall. Rainfed agriculture having very less crop productivity and cropping pattern is different. Uttar Pradesh is having highest area under irrigation and Mizoram is the only state in India which is least irrigated.

Use of Manures and Fertilizers

Prior to the invention of chemical fertilizers Indian farmers are used the organic manures and green fertilizer but after the development in chemical fertilizers they are using this for increasing the production and overuse of it leads to the increase in infertility of soil and causing the decline in soil health.

Seeds

Seed is a basic input for attaining higher crop yields and sustained growth in agricultural production. Distribution and supply of quality seeds to farmer by government department is the sole responsibility of the agriculture department to increase crop production. For the proper distribution and price control Government of India established the National Seeds Corporation (NSC) in 1963 and the State Farmers Corporation of India (SFCI) in 1969. High Yielding Variety Programme (HYVP) was launched in 1966-67 to increase the production of food grains in the country.

Inadequate storage facilities

Storage facilities are required to store the excess the production of crop in warehouse and cold storage. The perishable fruits and vegetable can be stored in the cold storage before reach to market. So this facility needs to provide to the farmers to store their goods and in India this having very less facility.

Transport

Transport facility is required to transport agricultural products to the market within stipulated time, so fast and proper transport system is important for the development of agricultural sector. The road network and railway network is main transport mode in the inland transport for the international transport the air cargo transport and water ways are important.

Agricultural Markets

Agriculture market is basic part of the agricultural business. The markets center governed by the state and national government are source of marketing of agricultural goods and it is required in every place to farmers can sell their product. Farmers can produce the goods but the agricultural marketing is last and important aspect of agriculture sector.

Capital distribution and supply

Capital invested in the agriculture by the farmers for the production of any product, it is required to buy seeds, agricultural implements, fertilizers, chemicals, pesticides and other required chemical materials, for inter cultivation of farming, transport and storage. So the capital facility such as agricultural loan facility, subsidy to the agricultural implement is required.

Small and fragmented land-holdings

In India due to high population per capita land holding is low and small and marginal landholding is high. The fragmented land holding affects for agricultural practices and not possible to use modern techniques for agriculture.

Lack of mechanization

Small and fragmented landholding and traditional farmers are not ready to accept the new technologies are inverted and available to the farming. In small farm it is very difficult to use advanced machine for cultivation.

Conclusion

In India need to change the cropping pattern, use advanced technique for the farming, leave the traditional methods, use of high yielding verity, proper use of chemical fertilizers and manures, increase the size of farming, proper implementation of government scheme of capital distribution and supply, hold of the government agencies the capital, transport and agricultural marketing then only possible to resolve the problems of agriculture sector and development of agriculture sector in India.

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Land Use/Land Cover Characteristics in Kallehol Village of Belgavi District of Karnataka: A Geospatial Analysis

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Introduction:

Land is one of the major and most important resources which consist of water, soil, associated with plant and animals involving the total ecosystem. With the rapid increase in population, an activity of human on land resource also has been increasing. For the need of food, energy and many others have to depend on the conservation and development of the productivity of this natural resource. It is also important to have the capability of monitoring the dynamics of land use resulting out of both changing demands of an increasing population and forces of nature acting to shape the landscape. Land is important natural resources and humans, not only live, but also perform economic activities on land. For various purposes land has been used either it may be the provision of shelter, extraction, food production and processing materials. Water and other resources culminate in the development of land use. A sequential development of land use with time results in different land utilization patterns and trends.

Study area

The study area is located at15.8646° N, 74.4203° E. in Belgaum District .it covers an area of 849.42 hectares and accommodates 3,031 people.The climate of the study area is very hot in summer and extremely cold in winter. The cold season starts by the middle of November and continues up to the beginning of March. The summer season follows thereafter and extends up to the end of the June. The study area is located in high rainfall zone but in the summer season there is lack of water availability. In Belgaum taluk there are 10 rainguage stations so one of them rainguage station is located near Kallehol village. In this village 85% people are working in farm and 15 % people employee.

OBJECTIVES:

The main objective of the present study are:

- to assess the land use and land cover characteristics in the study area
- to determine the aerial change of land use/land cover data.

Data Base and Methodology:

Present research work based on primary and spublished data, Field Survey and Laboratory analysis and published data collected from District statistic department Belgaum,Karnataka ArcGIS Desktop10.3 for Vector and Raster based analysis such as Map Overlay, Proximity Analysis, Rainfall Interpolation, and for generating Flow Accumulation map, Raster Stream Network and Stream Order map.Q-Gis has been used for digitizing study area.

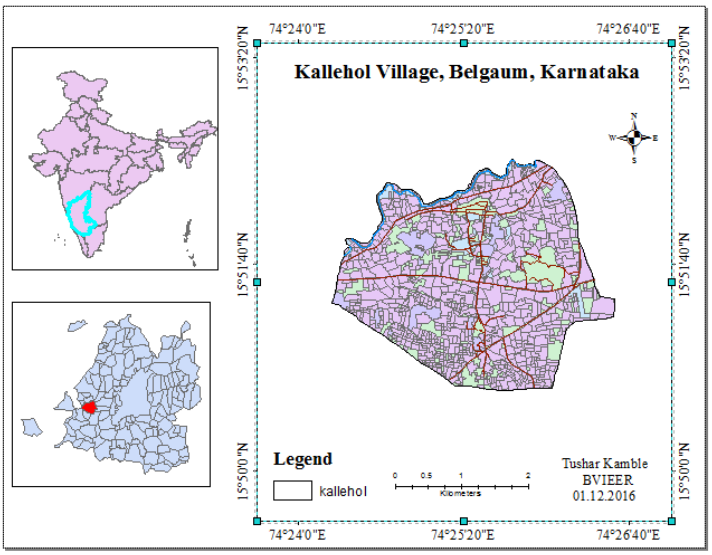

Figure:1. Kallehol village, Belgavi, Karnataka

Land Cover/Land Use in Kallehol village:

Study are is only 8.2 sqkms so its very difficult to LULC using the 30 m resolution satellite image so the land use /land cover map was generated by visual interpretation of the Google earth image. The study area is 90% covered by agriculture and rest area is covered by mining area, settlement, barren land and grass land.

The land best suited for check dams are barren land and hence it is given high suitability score while the other land uses such as cultivable land, vegetation, water body, settlement etc,.

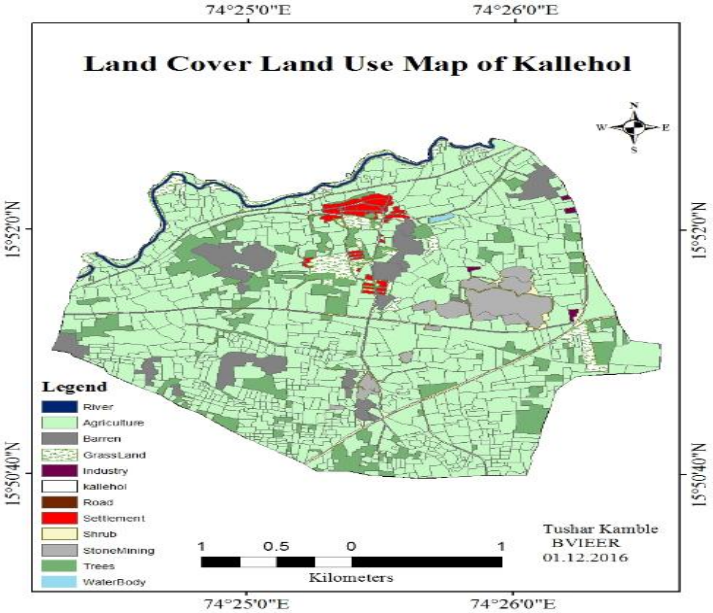

Figure 2- Land Cover/Land Use Map of Kallehol.

Table: 1. Ranking For Land Use Land Cover Kallehol Village:

Sr No	Land use Land cover	Ranking (In Word)	Ranking(In Number)
1	Crop Land	Good	1
2	Crop Cultivated Land	Good	1
3	Barren	Poor	3
4	Grass	Good	1
5	Industry	Poor	4
6	River	Good	1
7	Paved Road	Poor	4
8	Unpaved Road	Moderate	3
9	Settlement	Poor	4
10	Mining	Poor	4
11	Tree	Moderate	2
12	Lake	Good	1

Table: 2. Classification of Land Use Land Cover Kallehol Village:

Sl.No	Land use Land cover	Ranking (In Word)	Ranking(In Number)
1	River, Lake , Crop Land, Crop Cultivated Land and Grass land	Good	I
2	Tree and Unpaved Roads	Moderate	II
3	Industries, Mining, Settlements, Paved Roads, Barren land	Poor	III

In the present study the area under agricultural use was occupied large area as compared to other. Total geographical land was classified major three groups, good, moderate and poor. In this study area , River, Lake, Cultivated land and grass land area covered good in condition, trees and unpaved roads are

moderate in condition and industries, mining, settlements, paved roads and barren land is poor in condition.

Conclusion:

Land use and land cover area of study region refers to more intensive cultivation of formerly rain fed or under-irrigated plots of land resulting in higher yields per hectare and requiring more person days of labor. Some lands that only produced only a single crop previously can now be double-cropped, adding an additional season of labor. Formerly barren lands have now been brought under irrigation as a direct result of the water availability with the advent of check dams. Owners of this property now have additional days of agricultural employment. Kallehol village is suffering from lack of basic amenities and facilities. This village is haphazardly developed without proper network of roads, insufficient drinking water, bad sewerage system, etc., to achieve long-term objectives of Kallehol village.

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Sustainable Tourism Development and Effect of Radioactive Materials on Environment

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Abstract

Tourism revolves around people of diverse cultural backgrounds. Tourism values the things that are most precious in our world. It can be a catalyst for the local economy, jobs and opportunities. This leads to Protect, restore and promote sustainable use of ecosystems for future. Main reasons why tourists visit a destination are sustainably manage forests, landscapes, biodiversity and natural heritage sites. Sustainable tourism has a huge role not only in preserving biodiversity, but also in respecting earthly ecosystems, due to its efforts towards the reduction of waste and consumption, the conservation of local flora and fauna with its awareness raising activities. Thorium and Uranium are observe in our surroundings, especially coastal area. They are naturally occurring radioactive elements which emit radiations. Though they are better performing fuel material, but it is hazardous for living beings because of its harmful radiations. Solutions Thorium and Uranium in water samples are tested and resulted in dangerous for human beings. Their radiation can cause cancer, brain tumor, skin disease. More exposure to those radiation leads to the death.

Keywords – *sustainable, ecosystems, biodiversity, exposure, radioactive Materials.*

Introduction :

Tourism is an important tool for economic development for the world. This industry is totally depends upon mankind which provide jobs. A healthy environment is essential to attract worldwide tourists. The basic needs like transportation, affordable accommodation, safety and security, drinkable water, banking and commination services must available. Tourism sector in India is unique endowments of ecosystems having rivers, mountains, forests, vallies, rich culture and heritage. United Nations declared 2017 as the International year of sustainable tourism for development.

Discussion :

Sustainable tourism leaves a minimum negative impact on the places visited and preferably rather leaves a positive impact on society. Tourism is also identified as one of the major tools of the economy. "World set a goal to increase the economic benefits to developing and developed countries by 2030,." **Sustainable tourism leads to meet the needs of tourist and the tourism industry. It gives opportunities without compromising the ability of future generations to meet their own needs.**

Fundamentals for sustainable tourism Development

1. Use of resources sustainably : The use of resources conservative and sustainably makes long-term business sense. Such as natural, social and cultural resources. **Integrating biodiversity with** tree plantation and conservation of wildlife program.

2. Tourism planning : Tourism development comes under the framework of local to global strategic planning. It also has a everlasting impact which increases the viability of tourism. The bridge between the tourism industry and local communities is required if they have to grow. respect for the natural, social and cultural environment depends on quality Marketing that provide information of destination areas.

3. To grow local economy : Tourism supports wide range of local economic activities. It affects values or cost which protects these economy. This also avoids environmental damage to increase quality of the tourism experience. The involvement of local communities in the tourism benefits them and the environment.

4. Reducing overconsumption : Reduction waste avoids the costs of restoring long-term environmental damage and contributes to the quality of tourism to build preferable environment.

Sustainability is about the protection of the environment. However, there is far more to the environment than just the natural landscape. Tourism makes use of natural resources, such as clean air, land, mineral waters, and the water in lakes and seas. Survey shows that the water of the coastal areas is naturally contaminated with Thorium and Uranium, available in the form of salts. These dissolve into water and make soil and water pollution in vegetables and food. Radiations from those are harmful to the living organisms. They are toxic and can cause damage to internal organs. drinking massive amounts of thorium and Uranium can cause metal poisoning

Conclusion :

Healthy environment is required for tourism development. This research paper aims to focus on development of environment in the area of tourism. India is identified as religious and natural tourism. Sustainability is about the life long protection of the environment. Over the recent years, human activities on environment and climate exponentially increased, hence it is importance to preserve sustainable tourism. In 2019, Tourism industry accounted for 10.4 percent of the total worldwide GDP.

Limited use of thorium and uranium is not harmful to the human beings. It provides fuel to the country and helps to overcome the fuel crises which strengthen the economy. Small amount of thorium and uranium salts dissolved into the water and soil leads to the nuclear pollution. However the massive amount of exposure of those materials at tourist places can cause to damage health and biodiversity.

Environment Protection programs are aiming at reducing risks to the nature from contaminants such as hazardous materials and wastes. They provide the required actions to be taken in the event of a spill or release. Lots of environmental degradation is irreversible or will take hundreds of years to fix hence Conservation of the environment is necessary.

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A Study of Liner Aspect of Rangawali River Basin of Navapur Tahsil in Nandurbar District (M.S) Using GIS and Remote Sensing Techniques.

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Abstract

The Present study deals with result of liner morphometric analysis, such as Stream order, Stream length, mean stream length and bifurcation ratio for Rangawali River basin in Navapur Thasil of Nandurbar district. Liner morphometric analysis of Rangawali basin with the help of Remote sensing digital data and geographical information tools furnished accurate results giving us real physiographic setting of this study area. The study area was the richest one part of green and white golden agriculture of Navapur Thasil in Nandurbar District. At present due to scarcity of ground water the study area become dry to enhance previous agriculture, Liner aspect of Rangawali basin with the help of Arc GIS 10.5 and SAGA GIS 7.2 application is useful. The downloaded DEM data has been analyzed using Arc GIS software10.5 and SAGA GIS 7.2 Software the study Linear, Relief and Arial aspects of drainage basin retrieved that, total numbers of streams are 317 in that 166 are first orders, 83 are second order s, 52 are third orders, 15 are fourth order, 01 are fifth orders streams. The present study has up to a 5th order drainage catchment. According to estimation of stream orders.

Keywords: *Liner, Steam, Basin, DEM.*

Introduction:

Remotely sensed high spatial resolution data together with topographical data based analysis procedures, have come out as highly effective tool to understand and manage the natural resources. It provides the near real time and accurate information related to distinct geological formation, landforms and helps in identification of drainage channels, which are altered by natural forces and human activities. GIS is an effective tool to analyze spatial and non-spatial data on drainage, geology, landforms parameters to understand their interrelationship. Basin morphometry is a means of numerically analyzing or mathematically quantifying various aspects of drainage channel and its characteristics that can be measured for comparison which includes, the number, length, drainage density and bifurcation of rivers as well as shape, area, relief and slope of the basin. Drainage characteristics of basin and sub-basin have been studied using conventional methods (Horton, 1945; Miller, 1953; Strahler, 1964). Morphometric analysis using remote sensing and GIS techniques have been well demonstrated by some of the researchers (Nautiyal, 1994; Srivastava et al., 1995; Srivastava, 1997; Nag, 1998; Agarwal 1998; Biswas et al., 1999; Shreedevi et al., 2001, 2004, Vittala et al., 2004). As a common conclusion they indicated that remote sensing and geographical information system as powerful tools for studying basin morphometry and continuous monitoring. In the present paper an attempt has been made to (i) delineate different physical characteristics of the drainage basins and understand the relationship among them, (ii) understand the role of lithology and geologic structures in development of drainage pattern.

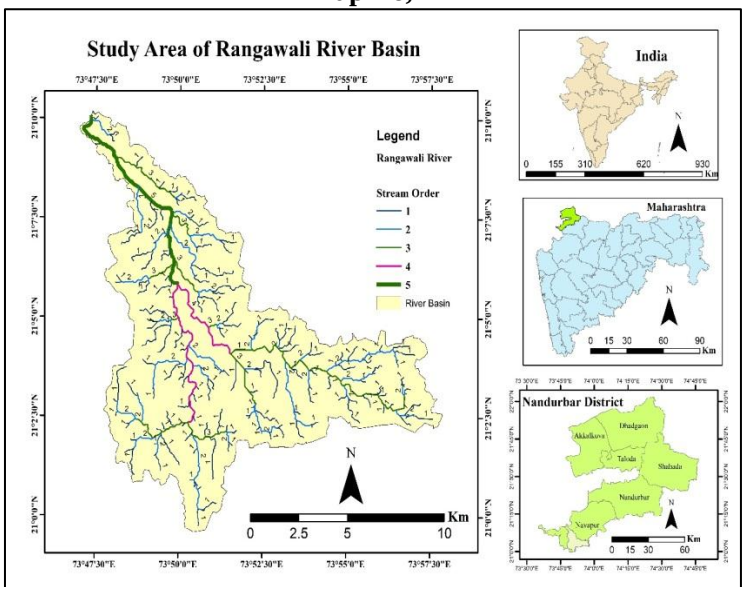
The importance of water has been recognized and more emphasis is being given on its economic use and better management. The basin morphometric characteristics of the various basins have been studied by many studied by scientists using conventional methods (Krishnamurthy and Srinivas, 1995, Srivastava and Mitra, 1995; Agarwal, 1998; Biswas et al., 1999, Narendra and Nageswara Rao, 2006).

Study Area:

Rangawali watershed is marked by 21° 0' N to 21° 10' N latitudes and 73°47' E to 73° E longitude (Map No, 1), stretching south-west to North-west direction and covering an area of Sari,Valkalambi, Khalibardi, Raipur, Vaghapapada, Bokalzar, Dhanrat, Nandwan, Navapada villages in Navapur thasil. The river Rangavali originates from Nagzari Lake. Nagzari Lake is located in the hills of Sayadri Mountains. The length of main stream of Rangavali river is 31 km. This river further joins the Tapi River at Ukai in the state of Gujarat.

The study region received 860 mm average rainfall. Rangawali River in study area is 139.16 sq km. Highest elevation of this basin is found towards the south western part of the north western region (630 meters from MSL), while lowest elevation is found 55 meters on the place where river Rangawali fed to river Tapi River.

Map No, 1



Materials and Methods:

The study area is covered within Survey of India (SOI) topographic sheets No F43O03 and F43O04 in the scale of 1:50,000. Topographical maps were rectified/ referenced geographically and mosaiced and entire study area was delineated in GIS environment with the help of Arc GIS 10.5 and SAGA GIS 7.2 software assigning Universal Transverse Mercator (UTM), World Geodetic System (WGS dating from 1984 and last revised in 2004) and 43°N Zone Projection System. Since, morphometric analysis of a drainage basin requires the delineation of all the existing streams, digitization of the drainage basin was carried out for morphometric analysis in GIS environment using Arc GIS 10.5 and SAGA GIS 7.2 software. The attributes were assigned to create the digital data base for drainage layer of the basin.

Table No, 1, Methods of calculating Morphometric Parameter of drainage basin

Morphometric Aspect	Morphometric Parameters	Methods	References
Liner Aspect	Stream order (U)	Hierarchical order	Strahler, 1964
	Stream length (Lu)	Length of the stream	Horton, 1945
	Mean stream length (Lsm)	Lsm = Lu / Nu where, Lu= Stream length of order 'U' , Nu= Total number of stream segments of order 'U'	Horton, 1945
	Stream length ratio (RL)	RL=Lu/Lu-1; where Lu=Total stream length of order 'U', Lu- 1=Stream length of next lower order.	Horton, 1945
	Bifurcation Ratio (Rb)	Rb = Nu/ Nu+1; where, Nu=Total number of stream segment of order' u'; Nu+1=Number of segment of next higher order	Schumn,1956

Result and Discussion:

The study of basin morphometry relates basin and stream network geometries to the transmission of water and sediment through the basin. Systematic description of the geometry of a drainage basin and its stream channel requires measurement of linear, areal and relief aspects of the channel network and contributing ground slopes.In the present study the morphometric analysis has been carried out about parameters as stream order, stream length, bifurcation ratio, stream length ratio, basin length, drainage density, stream frequency, elongation ratio, circularity ratio, form factor, basin relief, relief ratio, channel gradient using mathematical formulae as given in Table ,1 and the results are summarized in Tables 2 - 4.

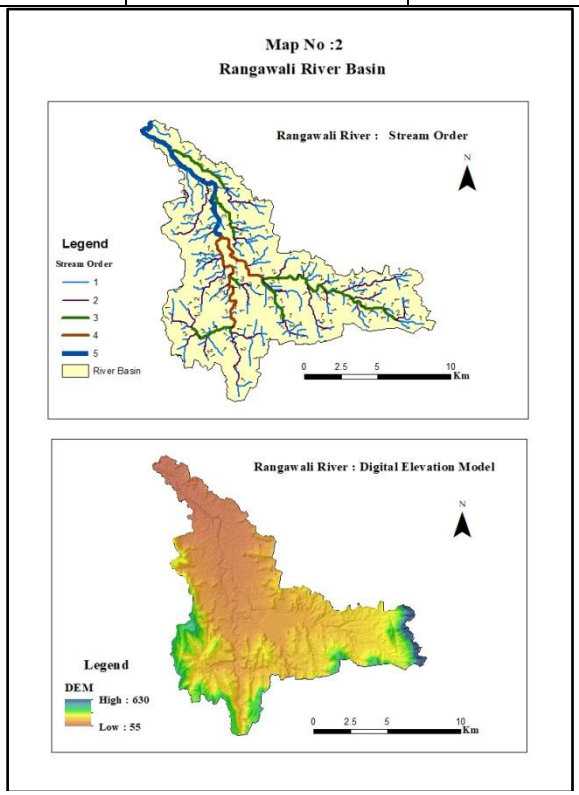
The properties of the stream networks are highly important to study the landform making processes. Morphometric parameters such as basin relief, basin shape and stream length also influence basin discharge pattern strongly through their varying effects on lag time. The natural runoff is one of the most potent geomorphic agencies in shaping the landscape of an area. The land area that contributes water to the main stream through smaller ones forms its catchment area or the drainage basin. The arrangement of streams in a drainage system constitutes the drainage pattern, that in turn reflects mainly structural/ or lithologic controls of the underlying rocks. The drainage pattern of Rangawali River basin is dendritic to sub dendritic in nature.

1. Linear Aspects:

Linear aspects of the basin are related to the channel patterns of the drainage network wherein the topological characteristics of the stream segment in terms of open links of the network, which consists of all of the segment of stream of a particular river, is reduced to the level of graphs, where stream junctions act as points (nodes) and streams, which connect the points (junctions) become links or lines where in the numbers in all segments are counted, their hierarchical orders are determined, the length of all stream segments are measured and their different interrelationship are studied.The nature of flow paths in terms of sinuosity is equally important in the study of linear aspects of the drainage basins. Thus, the linear aspect includes the discussion and analysis of Stream order (μ), Stream number (nμ), Bifurcation ratio (Rb), Stream lengths (Lμ) and Length ratio (RL). The results of linear aspects of a drainage network such as stream order (Nu), bifurcation ratio (Rb) and stream length (Lu) are presented in Table 1

Table No,2, Linear aspects of the Drainage network of the study area

River Basin	Stream order (u)	Number of streams (Nu)	Total length of streams in km (Lu)
Rangawali River Basin	1	172	111.24
	2	81	54.46
	3	56	32.46
	4	16	13.73
	5	01	11.16
	Total =	326	223.07



1.1. Stream Order (Nu) :

In the drainage basin analysis, the first step is to determine the stream orders. Under the present study, the channel segment of the drainage basin has been ranked according to Strahler's stream ordering system. According to Strahler (1964), the smallest fingertip streams having no tributaries are designated as order 1. Where two first-order channels join, a channel segment of order 2 is formed and similarly where two stream orders join, a segment of stream order 3 is formed and so on. The trunk stream through which all discharge of water and sediments pass through is the stream segment of the highest order.

The present study has up to a 5th order drainage catchment. According to estimation of stream orders, 172 streams were identified under the 1st order, 81 streams under 2nd order, 56 streams under 3rd order, 16 streams under 4th order and 1 stream under 5th order. The first order streams constitute 811.33 km of the total length covered by the streams. While the second order streams constitute 54.46 km, the third 32.46, the fourth 13.73 km and the fifth 11.16 (Table No, 2).

Thus, lower the order, higher will be the number of streams which is applied throughout the catchment. Drainage pattern of stream network from the basin is mainly observed as dendritic type. This pattern is characterized by a tree like or fern like pattern with branches that intersect primarily at an acute angle. Morphometric analysis shows that the first order streams have the largest share. However, these in lean period remain sometimes ephemeral in nature.

1.2. Bifurcation Ratio (R_b):

Bifurcation Ratio is defined as the number of streams in a low order to the number of streams in the next high order (Horton, 1945) and is given by

Rb = Nu/Nu+1,

Rb = 172/81

Rb = 2.123

Table No, 3, Calculative value of Bifurcation Ratio

Stream order (u)	Number of streams (Nu)	Bifurcation Ratio	Mean Bifurcation Ratio
1	172	2.123	**5.767**
2	81	1.446	
3	56	3.5	
4	16	16	
5	01	-----	

In our study area, these values stood to be 2.13 under 1st and 2nd order streams, 1.446 under 2nd and 3rd order, 3.5 under 4th order and 16 under 5th order indicating 1st and 2nd order streams with ample opportunities for identifying geographical location Rangawali river basin.

1.3. Stream Length Ratio (Rl) :

According to Horton (1945), the cumulative mean lengths of stream segments of each of the successive orders in a catchment tend closely to approximate a direct geometric series in which the first term is the mean length of streams of the first order. The stream Length Ratio is therefore calculated with the help of the following formula as under:-

(Rl) = Lu/Lu-1

(Rl) = Nu-1 / Nu

(Rl) = 54.46/111.24

(Rl) = 0.489

Where (Rl) = stream length ratio, Nu = length of an order, and Nu-1 = length in the next higher order. The mean stream length ratio is 0.579 for the study area.

Table No, 4, Calculated value of stream Length Ratio

Stream order	Total length of stream in km (L_u)	Stream Length Ratio (R_1)	Mean stream Length Ratio
1	111.24	0.489	**0.579**
2	54.46	0.596	
3	32.46	0.422	
4	13.73	0.812	
5	11.16	------	

The measurement of stream length Ratio (R_l) also helps in identifying the geographical location of Rangawali River. Table 4 shows that R_l value under 2nd and 1st orders was 0.489. While total length of streams (Lu) was measured as 111.24 km under 1st order, 54.46 km under 2nd, 32.46 km under 3rd order, 13.73 km under 4th order and 11.16 km under 5th order. The value of Lu decreased as the stream orders increased.

Conclusion:

The morphometric study of Rangawali River indicates that the basin is fifth order basin and is passing through an early mature stage to old stage of the fluvial geomorphic cycle. The basin shows dendritic type drainage pattern. Mean length of channel segments of a given order is greater than that of the next lower order but less than that of the next higher order. The logarithm of stream length of each order as a function of order is plotted, And relation between stream order and mean stream length yields a set of points lying generally along a straight line that indicates no strong structural control in the area. The average bifurcation ratio of the basin reveals that there appears to be no strong geological control in the development of the drainage, homogeneous nature of lithology and drainage network in study area is well developed stage. The eastern half part of the basin is under high relief which shows steep slopes with high drainage density, high stream frequency, less permeable subsurface lithology. The western half part of the basin is under low relief as compare to the eastern part which shows gentle slopes with low drainage density, low stream frequency, high constant of channel maintenance and highly permeable subsurface lithology.

Acknowledgements:

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Need For Changing the Farming System in Agricultural Development

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Abstract:

India is an agricultural country and India's economy is dependent on agriculture. Even today, 65% of the population is dependent on agriculture. Agriculture contributes 18.5 percent to India's GDP. Irrigated area is 40% in our country. On the other hand, 18 % of the area in the state is drought prone. On the one hand the land area is decreasing and on the other hand the population is increasing. It is necessary to use more efficient micro-irrigation methods to increase the yield of the crop. E.g. Methods like sprinkler and drip.

Today, when studying agricultural practices, the first focus is on the livelihood of farmers. Today, life is difficult for farmers in many parts of India. At such times we always hear about farmers' suicides. There are many reasons why farmers have resorted to suicide today. Some of them can be explained as follows ---

Adverse effects of climate change on crops. The farmer cannot decide the price of his goods (Market buying and selling, commission agents, traders and brokers, etc.). Ignore of market demand and supply to farmers. Not paying attention to the use of modern machinery and techniques due to debt bondage. There is a big difference between the cost of production and the cost of production (often higher production costs).

Keyword*:* *Agricultural Methods, Modern Seeds, Chemical Fertilizers, Modern Agricultural Tools and Mechanical Development*

Objectives:

1. To draw the attention of farmers to modern techniques and mechanization by studying Climate change
2. To study the changes in the farming system in agriculture
3. Understand the importance of water planning and micro-irrigation techniques for Agricultural development.

Research Methods and data collection:

The presented research paper is based on direct observation method and secondary information has been used to write the present research article. References, books, journals, newspapers, research articles and reports related to the subject as well as various websites on the Internet have been used.

Introduction:

The Indian economy is dependent on agriculture. More than 65 percent of India's population is directly dependent on agriculture. Agriculture contributes 18.5 percent to India's GDP. It not only provides food to large population of India but also supplies raw materials to agro-based industries. Apart from this, a good income is earned by the agricultural sector in foreign exchange every year for the country. Every year the area of land is getting less and less due to increasing cities, industries, bridges, roads, highways, dams, etc. On the other hand, the population is growing rapidly. So you have no choice but to increase production from less land area. Looking at the pre-independence population of 35 crore, it is not known when it reached 131 crore. Although we are now talking about self-sufficiency in food grains, the question of food security is serious. To this end, the government is implementing some schemes in agriculture for food security. For this, farmers need to change their farming. In the past, we used to produce as many grains, vegetables, pulses and oilseeds as we needed. From that, our needs were met. At that time everyone was satisfied and happy. Then the standard of living was normal, the needs were low. Today, when studying agricultural practices, the first focus is on the livelihood of farmers. Today, life is difficult for farmers in many parts of India. At such times we always hear about farmers' suicides. There are many reasons why farmers have resorted to suicide today. Some of them can be explained as follows ---

1. Adverse effects of climate change on crops.
2. The farmer cannot decide the price of his goods. (Market buying and selling, commission agents, traders and brokers, etc.)
3. Ignorance of market demand and supply to farmers.
4. Not paying attention to the use of modern machinery and techniques due to debt bondage.
5. There is a big difference between the cost of production and the cost of production (often higher production costs).

Discussion:

Over time, agriculture has undergone radical changes. In ancient times, when there were wells for irrigation, not much water was pumped out of the ground. Irrigation was done by draining water. Irrigation was then started by engine. Electric motor pumps were used along with diesel engines and then the ground water level started going down, so irrigation started with the help of bore wells.

1960-70 is considered the golden age. It was during this time that Sim's Balas scientist in Israel invented the drip irrigation system. Mokat irrigation, irrigation system is still widely used by farmers to irrigate their fields. Sometimes water is released throughout the field. Some farmers are irrigating with sari, varamba, nagmodi sari, long sari, aale method. This method gives 30 - 35 % water use efficiency i.e. 65 - 70 % water is wasted in this method. Irrigated area is 40% in our country. On the other hand, 18 % of the area in the state is drought prone. On the one hand the land area is decreasing and on the other hand the population is increasing. It is necessary to use more efficient micro-irrigation methods to increase the yield of the crop. E.g. Methods like sprinkler and drip. In micro irrigation system the efficiency of sprinkler system is 70-75% while in drip irrigation system the efficiency is 90-95%.

Generally, drip irrigation system was introduced in 1970. In Maharashtra, in 1988-89, Jain Irrigation Jalgaon started spreading this technique rapidly. So far, 5 million hectares of land in the country has come under micro-irrigation. It has 22 lakh hectares under drip irrigation and 28 lakh hectares under sprinkler irrigation. The state of Maharashtra has an area of 11 lakh hectares under micro irrigation and 3.5 lakh hectares under drip irrigation.

Micro Irrigation Method:

High efficiency irrigation system is micro irrigation system. Sprinkler and drip methods are mainly important in this. In addition, micro-irrigation leads to substantial increase in crop yields, better quality of goods, savings in electricity, reduction in costs due to saving in total labor required for the crop, besides saving in chemical fertilizers helps in maintaining soil fertility. Many such benefits are due to micro-irrigation.

Given the importance of the above, there are many examples of farmers who have experienced a record increase in production using drip irrigation. Water management has also helped in saving water and getting higher yields. The use of micro-irrigation in orchards, vegetables as well as cash crops like cotton, sugarcane, millet, maize, sorghum, groundnut, wheat, gram etc. will help in achieving good yields.

Improved seed and chemical spraying:

Spraying pesticides, disinfectants along with new improved hybrid seeds; thus giving up conventional seeds to increase the yield helps in getting the desired product. This has been demonstrated by modern technology. That is why today the quality of the crop is increasing along with the mass production. For example, vegetable nurseries on flat fields, mattress pads in open fields are now being set up in polytres in shednets. Also, improved varieties and hybrid varieties have been discovered by agricultural universities and private seed companies. At the government level, the marketing team is helping the farmers. Farmers themselves have started packing their wares in an attractive manner, processing industries like sugar mills, spinning mills, ginning presses, dal mills, oil mills have started. This means that as agricultural practices change, so doe's production.

Use of chemical fertilizers:

Chemical fertilizer is a very important ingredient in crop production in agriculture. Due to the use of conventional fertilizers, their fertilizer application efficiency is 40% to 60%. This means that 50 to 60 per cent of the cost of chemical fertilizers is wasted and the soil retains salts. Therefore, they also affect the yield of the crop. This created fertility techniques. In 1922, fertilizer technique was used to make water soluble fertilizers. This technique of fertilization gives 80 to 90 percent efficiency of fertilizer application. **Venturi** or **Fertilizer tanks**, **Fertizet**, **Fertimix** are used to fertilize the water from the drip. For those farmers who want to grow non-seasonal flowers, vegetables, strawberries, etc. in less space, greenhouse, shed net is a boon for the farmers. Therefore, changing the agricultural practices in line with the changing times will improve the livelihood of the farmers and in turn will help in the national development of the country. **Tissue culture technology** has become available along with fertigation greenhouse technology. Therefore, today in banana production, it is possible to take three crops in 28 to 30 months by tissue culture technique. During this period only two crops could be grown in the traditional way. This technique has doubled production.

Considering the problem of power shortage with the passage of time, 82% of the farmers in the state are drought prone. With this in mind, Jain Irrigation is trying to increase agricultural production by

using solar powered solar drip irrigation. Dryland farmers are using drip irrigation for their crops by installing solar pumps on farm ponds subsidized by the Department of Agriculture.

In the past, oxen were used for farming. Bullock carts were used for transporting agricultural goods but have now been replaced by tractors. Tractor moving implements for pre-cultivation and intercropping, rotavators, mattress pads, bed farmers, sowing machines, threshing machines as well as all the works of transportation are now being done with the help of tractors.

Suggestions:

1. Fertilization techniques should be used when applying chemical fertilizers to crops. 2
2. Automation method should be used in micro irrigation system.
3. Rainwater runoff should be planned for soaking in the ground so that the ground water level will rise.
4. Crops should be irrigated by drip and sprinkler system without watering in order to save water and achieve water management.
5. Solar powered solar pumps should be used in agriculture so that there is no problem of electricity
6. Greenhouses (greenhouses, polyhouses) should be planted using tissue culture techniques using shade net techniques.

Conclusion:

1. Use of drip and sprinkler irrigation methods in the field.
2. Use of chemical fertilizers by fertigation method.
3. Adoption of techniques like greenhouse, tissue culture.
4. There is a need to use modern machinery and techniques for agricultural development.
5. There is a need to train farmers in modern techniques for agricultural development.

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६. कृषी भूगोल - माजिद हुसेन

Glycerol: Green Solvent for Synthetic Organic Chemistry

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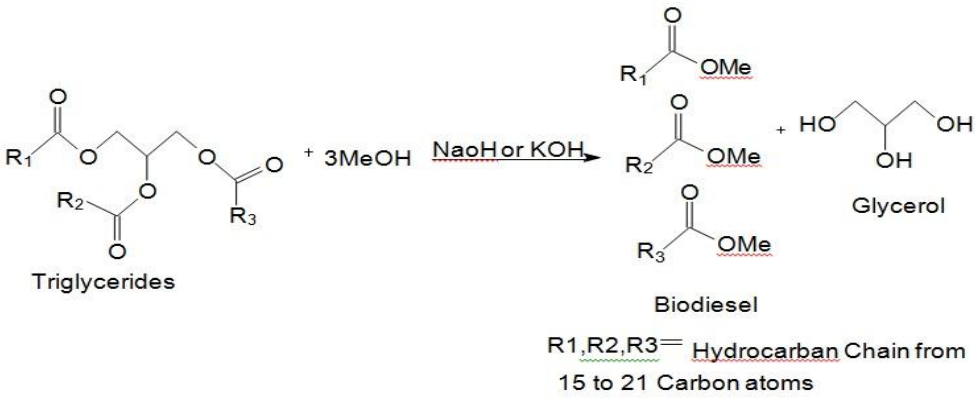
Introduction

Owing to its biodegradable and non-toxic nature, glycerol, the main byproduct in the production of biodiesel fuel, is being actively investigated as a green reaction medium for synthetic organic chemistry. A huge number of synthetic transformations have been conducted in glycerol in recent years, showing most of them having similar or even supe- rior efficiency and selectivity than those performed in conventional petroleum-based organic solvents. Herein, an overview on the most recent advances reached in the field is presented. The development of Green Chemistry and the search for cleaner synthetic methods are of utmost importance in organic chemistry, especially for the chemical industry [1-9]. In this context, the use of eco-friendly solvents is particularly recommended because the majority of waste and pollution generated by the chemical processes is directly related to solvents (it has been estimated that 80-90% of mass utilization in a chemical transformation is due to the solvents employed) [10-12]. With the ultimate goal of solving this environmental problem, several alternatives for the replacement of traditional organic solvents (most of them derived from petroleum and having negative environmental, health and safety impacts) have been evaluated during the last years (water, ionic liquids, supercritical fluids, perfluorinated solvents, etc.) [13-15]. In particular, given its great availability and non-toxic nature, the use of water as alternative "green solvent" in synthetic organic chemistry is being widely investigated [16-22], but the subsequent production of waste- water should not be underestimated In the continuous search for eco- friendly solvents, bio- mass-derived chemicals are also emerging as very promising alternatives [23-26]. Among them, glycerol is attracting considerable attention since the fast development of the biodiesel industries, in which it is formed as the main byproduct, has generated a large excess of this chemical (ca. 100 kg of glycerol per ton of biodiesel are formed) (Scheme **1**). In fact, recent studies have estimated that world-wide production of glycerol in 2010 was about 2 million tons [27]. In addition, it is expected that this quantity will increase in the future due to the growing demand for biodiesel, as well as the rapid development of other processes based on the conversion of cellulose and lignocelluloses into value added chemicals in which glycerol is also generated as byproduct. Consequently, new applications for this low-cost raw material are needed [28]. According to the Green Chemistry principles, glycerol is a prototypical example of a "green solvent" [1]. In fact, as suggested by Jérôme and co-workers [29], glycerol can be considered as "organic

water" since, like water, it is abundant, biodegradable, inexpensive, non-toxic, highly polar, immiscible with hydrocarbons, able to form strong hydro- gen-bond networks and able to dissolve a wide range of organic and inorganic compounds, including transition metal catalysts. In addition, compared to water, it has the advantage of its higher boiling point, lower vapor pressure, and that it is able to dissolve organic compounds usually immiscible with water. The possibility of revalorize glycerol using it as a solvent for synthetic chemistry has been very well received by the chemical community, as clearly demonstrated by the large number of stoichiometric and catalytic organic reactions that have been successfully performed in this medium in recent years [30-35]. Remarkably, the use of glycerol as solvent has resulted in some cases in an enhanced reactivity and/or selectivity, and also in an easier product separation and an improved catalyst recycling. Transformations of glycerol into other chemicals are considered out of the scope of this review.

A cost-effective and environmentally benign method of synthesis of N-aryl phthalimide derivatives from phthalic anhydride and primary aromatic amines in glycerol has been presented by Shankarling and co-workers. Glycerol played the dual role of catalyst and solvent in this condensation process which conventionally requires acidic catalysts to proceed. The reactions, which were performed at 80ºC and could be scaled up to 50 g of phthalic anhydride, delivered the desired products in moderate to high yields and short times, with good recyclability of the recovered glycerol (up to five consecutive runs). Similar results in terms of yields and recyclability were obtained using biodegradable deep eutectic solvents (mixtures of choline chloride/urea and choline chloride/malonic acid) as the reaction media.



Scheme **1**- General reaction involved in the production of biodiesel.

On the other hand, the combination of multicomponent reactions (MCRs), in which at least three different substrates join through covalent bonds in a single operation, andgreen solvents has emerged in recent years as an important research area within organic synthesis. Glycerol has proved to be a convenient platform to perform this type of transformations.

Biocatalysis

Water is undoubtedly the preferred solvent for biocatalysis, but the hydrophobic character of many organic mole- cules, the occurrence of undesired side reactions such as hydrolysis, and the difficulties associated with the separation of the products are major drawbacks in the field. Despite their negative environmental impact, organic solvents are usually employed to circumvent these problems. In 2006, Wolfson and co-workers demonstrated that glycerol is a suitable green reaction medium to perform organic biotransformations, accomplishing successfully the asymmetric reduction of methyl acetoacetate by means of free (FBY) and immobi- lized (IBY; alginate beads) baker´s yeast . Since then, other biotransformations were conveniently performed in glycerol as already indicated in our previous review article published in 2011 [31]. In the most recent years covered herein, Wolfon´s group used the asymmetric reduction of ethyl acetoacetate to compare how yeast cell viability, reac- tion performances and product extraction yields are affected in different glycerol-derived solvents and water [38]. The re- sults obtained pointed out that, while water is preferable in terms of viability and activity, the glycerol- based solvents allows a more effective separation of the reaction product (five extracting organic solvents of different polarity were screened and with all of them extraction yields were lower when water was employed as the reaction medium).

In addition to these reduction processes, glycerol was shown to be an excellent alternative for use as a co-solvent in the resolution of racemic phenylethanol with different acylating reagents (vinyl acetate, ethyl acetate, iso-propenyl ace- tate or acetic anhydride) catalyzed by the Burkholderia ce- pacia lipase immobilized in ginger starch film. The mixture hexane/glycerol was particularly adequate for such ends. Different biocatalytic transformations have also been described employing solvents derived from glycerol (DES, glycerol esters, ethers, etc.)

Conclusions

In brief, all chemistry presented here along with that al- ready discussed in our previous review article [31], clearly demonstrates the utility of glycerol as green reaction medium for countless organic transformations. A large number of examples showing improved reaction performances and se- lectivities, easier product separation and effective catalyst recycling, hallmarks of this green solvent, have appeared during the last two years. The problems associated with its high viscosity have not been an impediment to the develop- ment of this research field, which will continue to expand in the coming years due to the great availability and low price of glycerol.

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Sustainable Development of The Environment

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Abstract-
Here I expressing my view and all about concern for radiation which is make a hot potato in this time because exposure of radiation is very high and this is harmful for both biotic and aquatic ,biotic means all livings things in the habitat such as plant animals and other living things organism and aquatic components include such as stone ,soil, air ,water ,air ,water light heat etc .

Radiation does have adversely affected on environment and this 300MHz to 300GHz and this is emitted by cell phone towers and handsets has been found to be responsible to damaging the layer of stratosphere and damaging and embryos of sparrows so this is produce by electromagnetic device and frequency of this up to 300hz so a range of frequencies of electromagnetic harms Himalayas, Ecological - reserves, biodiversity reserve so all this facts consist in my research paper.

Keywords –Harmful effects of radiation, managing and protecting of environment, details about carbon cycle, Increase emission of carbon cycle, decrease the emission of electromagnetic devices protect of flora and fauna.

Introduction –

Radiation produces by sunlight exposure and this is called the solar resource which is called electromagnetic radiation emitted by sun so this is useful form of energy, such as heat and electricity using a variety of technologies

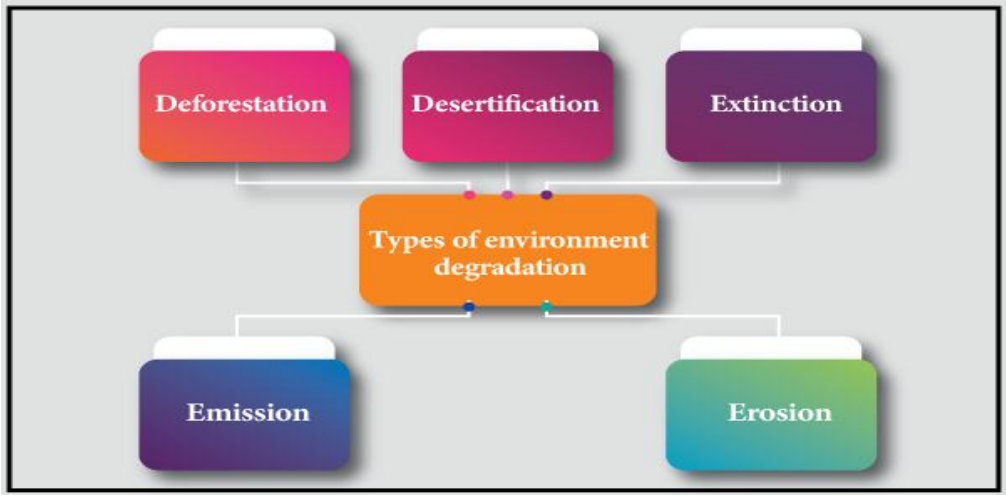
Natural and unnatural both type radioactive source present in the soil, water and air contribute to our exposure to ionizing radiation, as well as manmade sources resulting from mining and use of naturally radioactive materials in power generation, nuclear medicine, consumer products, military and industrial applications and this is useful for all but when we talk about unnatural source of radiation which is badly harm of human life and environment. This is harmful result of radiation.

Radiation responsible for Environmental Degradation-

1-Impact on Human Health:- Human health by effected environmental degradation. air water climate badly change with chemically effected human health.

2- Loss of Biodiversity:- Biodiversity is vital to sustain balance of the ecosystem in the form of combating pollution, restoring nutrients, protecting water sources and stabilizing climate. Deforestation, global warming, overpopulation and pollution are few of the major causes for loss of biodiversity.

3- Ozone Layer Depletion:-Ozone layer is responsible to shield earth from detrimental ultraviolet rays. The presence of chlorofluorocarbons, hydro chlorofluorocarbons in the atmosphere is causing the ozone layer to deplete. As it will deplete, it will emit harmful radiations back to the earth.



When we talk about ionizing radiation which is produce by electromagnetic sources such as electricity ,water cooler ,refrigerator ,air conditioner etc and this is harmful type of radiation which affects environment and polluted environment become major cause and hazard of human being life such as headache, sickness ,damage skin cells and numerous type health hazards so firstly this is big thing some environment policy have to be mitigate this risk and increase the carbon credit quota because cleansing

use UV radiation generates ground level, ozone(O3) and some and other gas this hydroxyl radicals that act as cleaning agent for troposphere.

Theme of the idea –This paper give a view to protect our environment with lots of pollutants ,hazards and radiation this is the one of them which is play major role it's responsible to depletion of ultra violet rays and this is challenges, particularly to basic research our ecosystem impacted badly and this impact occur by all over environment a species poor ecosystem ,origination and extinction of species ,Antarctica snow melt rapidly and all these Nemours types of impact against the sustainable development of environment and this is one of the impacts from land-based sources of pollution—including coastal development, deforestation, agricultural runoff, and oil and chemical spills—can impede coral growth and reproduction, disrupt overall ecological function, and cause disease and mortality in sensitive species. It is now well accepted that many serious coral reef ecosystem stressors originate from land-based sources, most notably toxicants, sediments, and nutrients so how to reduce this pollution which is impacted land .climate air and marine pollution.

Keywords -Remove depletion of Ozone layer, Reduce the coal mining and completely banned of useful tree cutting, don't give permission as types of industries which is produce hazards chemical.

Pollution-pollution from human made activity which is created chemical reaction in the atmosphere change of pollution and generated by transportation ,heavy vehicle and its dangerous to all and nothing useful resources for protection to all elements of the living environment ,while also linking it to sustainable human to use of biological resources so here concern about this if our environment become polluted so all types of aquatic and biotic resources can be seen as haze and through negative biological impacts the other thing in this time agricultural area ,industries ,power plant and sewage more polluted and nonorganic based sources which is use of agriculture so this is main reason of climate change .

Ozone depletion – Ozone gas in the atmosphere from harmful radiation while acting to destroy ozone to produce CFCs and HFCs its Emission of greenhouse gases can affect the depletion of the ozone layer through atmospheric interaction this is increase carbon emission and CH4 emission in same period this Ozone depletion by +4.4%per decade ,which is close to TOMS and Dobson measurement so cause of this Ozone hole and global warming increase rapidly so cause of this decrease water supplies ,increase too much heat which is reduced agriculture yields ,health impact and flooding and erosion in coastal areas this is occur lower level of seas because absorb and trap infrared radiation responsible for lower atmosphere of the earth **.**

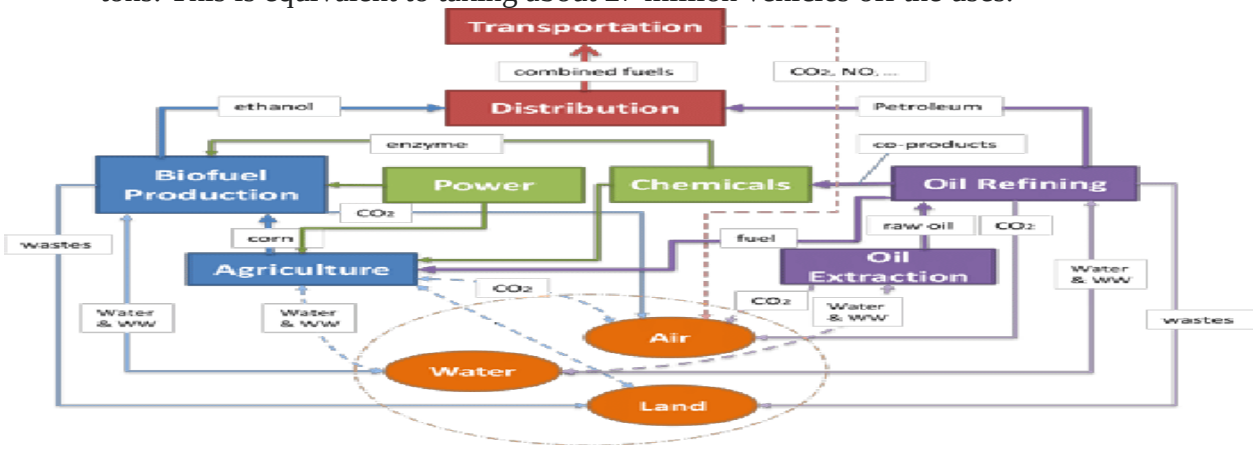
Basic challenges of climate change-firstly all countries adopt natural resource and organism product which is reduces adverse impact of environment because in this time Climate change is one of the biggest challenges that humankind is facing It exposes our society and economy to substantial risks – both physical risks resulting from the greater incidence of climate-related disasters, and transition risks which is produce more and its reason both commercial source and man made activity and this is polluted climate ,biotic and a biotic resources so firstly our Govt. totally banned chemical resource products and substance which is non biodegradable and become hazard of climate, agriculture industries and transportation this is big example of lad ether industries of Kanpur which is main reason of river pollutant and not be can easily biogradable so firstly as types of industry must be banned which is point source of pollution.

<u>Major source to reduce pollution</u>-

-

- Use biodegrable products which is easily recycle and govt. also completely ban unnatural and chemical based product in as agriculture urea, industries chemical and lots of chemical based product and only give permission only to use of biogradable products such as diagram.
- Solid waste and its necessary their management because it's also major source of pollution degrade our land and impacted badly such as agricultural ,mining ,industries and domestic source.

- Drive a low carbon vehicle which is emit lower CO2 pollution because cause of this various forest ,plant and trees that absorb carbon Di- oxide and this is increase carbon Di- oxide levels in air support green house effect and behalf of major following we can reduce pollution.
- Several harms are attributed to cell phone towers, including health impacts from electromagnetic fields, safety, and harm to wildlife, and loss of property value. The most common complaint is aesthetic. As one court observed, "Few people would argue that telecommunications towers are aesthetically pleasing. So govt. have to make policy to control emission of cell phones towers and which is destroy climate water air and major cause which is responsible for cancer and some time various birds animals die by this tower radiation which is emit rapidly .
- The biofuels industry has been strongly impacted by the Covid-19 pandemic. Global transport biofuel production in 2020 is anticipated to be 144 billion liters (L), equivalent to 2 480 thousand barrels per day (kb/d) – an 11.6% drop from 2019's record output and the first reduction in annual production in two decades. so this reduction take place continuously so it's safe environment effectively.
- **Reduced GHG Emissions** fully implemented in 2022, the expanded use of biofuels under the RFS is expected to reduce annual GHG emissions by 138 million metric tons. This is equivalent to taking about 27 million vehicles off the uses.



- Agricultural pollution refers to the contaminants present in the environment as a result of undeveloped practices. Most special effects of agricultural pollution are felt in water environments and are caused by excess from farms in the course of pesticides,

fertilizers, and animal waste that make their line of attack into bodies of water so govt . give direction to use of neem coated urea and also have to ban inorganic source of farming which is responsible for reduce fertility of climate.

- Central Pollution Control Board and the State Pollution Control Board have been established by the central and state authorities. The Water Prevention and Control of Pollution Cess Act, 2003: Solutions for marine pollution include prevention and cleanup. Disposable and single-use plastic is abundantly used in today's
  society, from shopping bags to shipping packaging to plastic bottles. Changing society's approach to plastic use will be a long and economically challenging process. So its law become more effectively to protect some good bacteria which is useful for water bodies and reduce marine pollution and restrict industries wastes ,oil spills, sewage this is badly impacted for marine and degradation of water quality which is consume by many more animals ,human beings

- The primary goal of the Endangered Species Act is to make species' populations healthy and vital so they can be delisted from the Endangered Species Act. Under the Endangered Species Act, the U.S. Fish & Wildlife Service oversees the listing and protection of all terrestrial animals and plants as well as freshwater fish so we have to create sustain environment to protect animals and provide reservation of this animals who is extinct name of some extinct birds The kangaroo island emu , the king island emu , the moa (Dinornis giganteus), Elephant bird (Aepyornis maximus), and the diatryma are all extinct birds. Name of some species which is recently extinct –White-bellied heron (*Ardea insignis*)
- Great Indian bustard (*Ardeotis niriceps*)
- Baer's pochard (*Aythya baeri*)
- Spoon-billed sandpiper (*Calidris pygmaea*)
- White-rumped vulture (*Gyps bengalensis*)
- Indian vulture (*Gyps indicus*)
- Slender-billed vulture (*Gyps tenuirostris*)
- Bengal florican c(*Houbaropsis bengalensis*)
- Bugun liocichla (*Liocichla bugunorum*
- Red-headed vulture (*Sarcogyps calvus*)
- Sociable lapwing (*Vanellus gregarius*)
- Christmas Island Frigatebird (*Fregata andrewsi*)
- Pink-Headed Duck (*Rhodonessa caryophyllacea*)
- Yellow Breasted-Bunting (*Emberiza aureola*)
- Siberian Crane(*Grus leucogeranus*)

According to IUCN Red List, 16,306 are endangered species, including animals and plants, out of which 132 species are critically endangered in India. Animals such as Red Panda, **Asiatic lion endangered** ,Nilgiri tahr, Black Buck, One-horned Rhinoceros, etc So our govt. provide more conservation to avoid extinction of species

So this is some secondary data and my descriptive study which is shows if our Environment continuously polluted so one day each and every thing will destroy and agriculture depends country situation will completely bad and this is following measure are as above for sustainable development of environment.

Conclusion- various types of aspect come in the context of environment pollution and radiation play major role its first responsibility of citizens we take seriously this matter and completely change our life style which is based on unnatural things and equipment and responsible for climate change ,land degradation, deforestation and ozone hole etc so my view emphasis on this thing we change our lifestyle once and go to our past where no more pollution exist because generally people based on natural resource environment and life is also easy in those days and mostly people are fit and healthy in old age but today err is change we have all equipment and comfort still our life not easy because lots of dieses come in before old age so this is major problem indicating our life style not healthy we don't understanding this fact but in the context I am say only if we are not careful so various types of dieses will come in future where no any solution we can't find because on those days its will become dangerous .

Reference –

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4. *www.bloomingtreephotography.com use for diagram indicate*
5. *www.aph.gov.auon.use for current environment data 2021-22*
6. *www.itu.intfor using this site purpose of telecommunication data.*
7. *www.ncdc.noaa.gov using this site purpose for environment information and policies*
8. *http://www.ncbi.nlm.nih.gov/pmc/journals/1427 using this site to take more information of microorganism that protect and safe environment.*
9. ***National wildlife magazine home at last give survey report of extinct animals and birds species .***
10. ***National wildlife magazine spawning a solution give information about planet and coral reefs.***
11. *Abcbirds.org* ***Data taken of endangered birds who is extinct 2021.***
12. *www.profacgen.com › Profacgen now provides comprehensive data analysis services for discovering new knowledge from various types of biological data.*
13. ***https://www.youtube.com/watch?v=7jxm9q3S tools for endangered species conservation.***

The Role of Women Self Help Groups in Sustainable Development Goals Special Reference to Roha Taluka

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Abstract:

This study seeks to examine the impact of participation in Self Help Groups on the empowerment of women while conceptualizing any programme for rural women in the context of the great importance being given to the group approach. The study is situated in District Chamarajnagar in Southern State of Karnataka. The study uses the personal narrative method to give a voice to women's perspective describing the phenomenon of transition of women prior to joining SHGs to being empowered. The various dimensions of empowerment such as Economic, Socio-cultural, Interpersonal and Political dimensions are studied. Access to credit can help women by enabling them to start and expand small businesses, often accompanied by market access. The women experienced feelings of freedom, strength, self-identity and increases in levels of confidence and self-esteem. Besides, involvement in SHGs has enabled women to have a voice in the community affairs and they have been able to tackle problems and have gained power over decision making in the households. Though women hardly involve themselves in politics, their participation in SHGs has altered them, and these women have realized the importance and the right to vote without being influenced by anyone. Some of the recommendations for a way forward include providing a convergence of inputs, ensuring a proactive involvement of women in the program, changing social norms and perceptions and anchoring with wider movements of social change

Keywords: *SHGs, Villages, awareness building, Monthly savings, Training, Social Capital.*

Introduction:-

Village women in the target villages have limited formal education, and many are literate. As regards the financial status of the people, they are poor, and they do not have any savings to meet any planned or emergency needs. Whenever they need funds, the villagers bank on two sources of loans – banks and money leaders.

The villagers and women in particular do not understand the bureaucratic working of banks and the elaborate paper work involved in loan application. They also do not have any capacity to provide collateral or assets to pledge against the bank loans. In majority of cases, the villagers need small amount of loans for immediate requirements, and are not sure when exactly they can repay the loan Banks, by their very constitution and nature of business find it difficult to provide loans to such customers, unless they have some kind of collateral or guarantee of repayment. Money lenders, who are locally based, know the local villagers, and are willing to take more risk , and grant loans with or without any collateral . However , the exploit the illiterate and helpless villagers, and charge exorbitant rates, and seize mortgaged items if any,. in case of default in to repayment of loan. In most cases villagers pledge their family jewellery , silver utensils, sarees , farm land etc. The helpless villagers are in no position to fight with the money lenders who are influential and politically connected.

Concepts of SHGs :

Self Help Groups (SHGs) SHG is defined as a voluntary group valuing personal interactions and mutual aid as a means of altering or ameliorating the problems perceived as alterable, pressing and personal by most of its participants.2 These groups are voluntary associations of people formed to attain certain collective goals that could be economic, social or both. The origin of SHGs is from the Grameen Bank of Bangladesh, which was founded by Mohammed Yunus. SHGs were started and formed in 1975. In India NABARD had initiated in 1986-87. But the real effort was taken after 1991-92 from the linkage of SHGs with the banks. A SHG is a small economically homogeneous affinity group of the rural poor voluntarily coming together to save small amount regularly, which are deposited in a common fund to meet members emergency needs and to provide collateral free loans decided by the group. They have been recognized as useful tool to help the poor and as an alternative mechanism to meet the urgent credit needs of poor through thrift. SHGs enhance the equality of status of women as participants, decision-makers and beneficiaries in the democratic, economic, social and cultural spheres of life.3 The basic principles of the SHGs are group approach, mutual trust, organization of small and manageable groups, group cohesiveness, sprit of thrift, demand based lending, collateral free, women friendly loan, peer group pressure in repayment, skill training capacity building and empowerment. There are 3 models of credit linkage of SHGs with banks that exist in India: Model I: SHGs formed and financed by banks.

Literature Review

Women's empowerment can be measured by factors contributing to each of the following i.e. their personal, economic, familial, and political empowerment. Household and interfamilial relations are to be included which is believed to be a central locus of women's dis-empowerment in India. To understand the change women undergo in becoming empowered we look at the above aspects. Various studies show that the women have been empowered based on factors such as income, households, political, decision making etc. 4 Jason Cons, Kasia Paprocki(2010) in their paper explored the implications of microcredit's cultural and economic intervention in the lives of borrowers in rural Bangladesh. Their objective was to explore recipients' own critiques and experiences of microcredit. They explored recipient experiences with microcredit using an approach called community based oral testimony by working with group of 10 landless labourers living in Arampur, training them in qualitative research techniques and developing a co-operative research agenda that mapped to specific concerns within the village. These community researchers then carried out fieldwork in their community, conducting semi and unstructured interviews with 150 recipients of microcredit loans (representing 10% of total households in Arampur) over multiple sittings, and recorded these discussions using digital audio recorders. Recipient perspectives on the outcomes of a specific cultural intervention in Bangladeshi rural life were explored.

Methodology

Scope The study is carried out in a single village with 3 SHGs It uses the qualitative method of research Only women respondents are chosen for the study.

Objective To identify the empowerment of rural women through self help groups Research Questions:

1. Is there an increase in women's influence in decision making in the household?
2. Has participation in SHGs increased women's mobility and participation in social activities?
3. Does participation in SHGs increase women's awareness and knowledge?

Formation of First SHG

As a first step in demonstrating the advantages of SHG s a model SHG was created by MADER in August 2002 with a few active women from various villages in the project area, who were also chosen as the filed functionaries at that time. The women were chosen as field functionaries based on the following criteria.

The women should have passed Std. X

- The women should have basic knowledge of simple mathematical calculations.
- The women should be active and show their willingness to work as MADER field functionaries.

The first meeting of the SHG was held in August 2002. The SHG was named Nishigandha by the members.

Awareness building about SHGs

Field functionaries were given training through MADER about the origin, role, methods and merits of Self Help Group formation. Examples of existing successful SHGs in other regions of Maharashtra, Andhra Pradesh etc. Were given to them. In turn those field functionaries who were coordinating with MADER for grass root level work, met groups of women in their respective villages, to communicate the advantages of group formation. Subsequently, the women in the villages came together and organized themselves into self-help group .

Formation of first few SHGs:

The first eight SHG were started in the year 2003. In the year that followed, 23 new SHGs were formed. This shows that the word spread among the villagers about the benefits of group saving and lending. As a result, women positively responded to the encouragement given by field functionaries and MADER social workers, and they took part in the formation of new SHGs . Thereafter every year a steady increase in the number of SHGs has been noticed and till date there are 105 SHGs in the area under study.

Organization structure and profile of SHGs

The researcher studied the functioning of SHGs operating in the sample using various methods such as personal interviews. FGDs verification of Saving Bank Account Pass Books, attending monthly meetings and physical verification of entrepreneurial activities . Besides this, secondary information collected from the annual records maintained by MADER and field functionaries were also consulted . Information collected thereby revealed the following

Office bearers and members

Every SHG elects from among themselves President (adhyaksha), Vice President (Upahyaksha) , Secretary (Sachiv) and Treasurer (Khajindar) of the group of maintain the accounts and to run the SHG . The number of members in cash SHG ranges between 12 and 20. A few women have membership in more than one SHG

Monthly meetings and attendance

Records maintained by four SHGs have been verified to understand the schedule of meetings. The SHG meetings are held once every month. The timing for the meeting is usually around 5 pm in the evening , after the members complete all their household chore. The meetings are held for duration of one and half to two hours. The meetings are held by rotation in the houses of each SHG members of the group . The member who hosts the meeting for the month also arranges tea for all the other members in the group

Monthly savings

A study of five Pass Books maintained by SHGs shows that the monthly savings by each member is Rs. 50 to 100 in most of SHGs and Rs. 200 in case of a few SHGs . Field functionaries who are overseeing 8 to 9 SHGs each,m confirmed this practice as being followed by all SHGs.

Sources of Funds for SHGs

It is observed that the SHGs start with their own internally generated small savings and only a couple of SHGs became eligible to access funding from banks.

Participation in decision making

Equal opportunity is given to all members to express their opinion in the meetings. All the decisions are taken at the meetings with the involvement and participation of all the members. Study revealed that any conflicts with respect to delayed repayment, or who should get preference for loan, were resolved with the support of MADER assistant or the social workers from BAIF , ion the initial year of group formation. (The social workers and MADER assistant were trained to frame rules for SHG functioning by BAIF to ensure uniformity and consistency in policy) IN course of time the members were able to take their own decision by consensus.

Policy of lending : Selection of members for granting loans is based on the criteria decided in advance by the members as a policy. In general top priority is given on ground of health requirements of family members, next in line are family emergencies, followed by loans for education purpose , family functions and last preference for house hold purchases.

Only a small percent of the SHGs have used their savings for the purpose of starting micro enterprises.

Purpose of loans

The monthly savings of the SHGs are used for internal lending. This money is used by members for purposes such as household emergencies, family requirements, investing in micro enterprises, house of toilet construction, education, relaying loans taken from money lenders etc. In the initial stages of SHG formation, it was seen that the members were inclined to take loans for household expenses. Once the women were trained in some income generating activity , MADER social workers and experts from Jan Shikshan Sansthan encouraged the SHG members to take loans for the purpose of starting their own micro enterprise . Generally, 18 – 24 months of stable SHG functioning were required for the members to start taking loans for doing micro entrepreneurial activity.

Linkages with the Bank

SHGs opened Savings account in the bank nearby within 10 – 12 months of formation of the group. Most of the SHGs have opened account either with the State Bank of India located at Varwathane village or Bank of India located at Bensewadi village, which ever was closer to their village . However they have not taken any loan from the Bank for business purposes.

Refer to Appendix No 6.4 for performance of SHGs sponsored by MADER with respect to savings and credit extension from inception till 2008 – 09

Training for Micro – entrepreneurial activities

MADER organized various employment oriented skill development programmes, to empower women from the underprivileged segments. Initially MDER team verified whether the women were interested in taking up an entrepreneurial activity to earn additional amount for the family. When MADER was convinced that some of the women were genuinely interested , various training programmes were organized as per the women's interest . These include training in making of Candles, Agarbatti, Detergent , Soaps and Purses / Bags. The product made by SHGs are marketed in the RIL Township and a few through cooperative marketing outlets, like Raigad Bazar .

i) **Training in Bag Making**

Training programmes in 'ladies purse making' was arranged for the members of Shri Samarth SHG of Bense village to teach them to make commercially viable bags.

The training programme was for a period 20 days, for three hours every day, in the month of January 2008, About 20 women underwent training programme. The women were taught ten types of bags and small purses. They were also given guidance on how to economize on cloth usage and sources of low priced raw material and methods to increase returns.

ii) **Training in candle making**

Training in candle making was organized for the SHGs of the villages Mundhani and Tarshet . It was noticed that there was good demand for candle from the villagers due to frequent power cuts. A one day training programme was arranged . The tools required to make the candles were supplied to the women by MADER, free of cost. About 25 women were trained in February 2008. The researcher had a discussion with five women who were engaged in this activity .

iii) **Training in Papad Making**

Training to make papads was a two day programme and it was arranged for members of Mahila Vikas SHG of Varvathane, Dhaveshwer SHG of Bense & members of Gavdevi SHG of Bensewadi. About 40 women received training in the first quarter of the year 2008. A nominal fee of Rs.5 per participant was charged as contribution from each women for the training .

iv) **Training in Door Mats from industrial scrap material**

A voluntary organization called Spandan, located at Roha in Raigad district, pave training in Door Mats making to the members of SHGs in Shihu village . About 40 women underwent the training programme for three days.

After the training the women were given job work for making doormats at Rs. 3/- per mat stiched. Spandan issues industrial raw material to the women interested in making door mats. According to the time available and ability to make the mats, the women decide the quantity of raw material they wish to collect.

Conclusion:

This study has shown that, the concept of SHG is a better mechanism for easy availability of microcredit to rural women and helps them to uplift their social and economic status. Their involvement in family decisions is enhanced. Microcredit facility enables women to own tools and means of production to upgrade their skills and improve their business. After encouraging habit of savings among women, group loans for specific economic purposes are provided. Most of the poor women use this money at first, for domestic needs, to support their families. Aided by microcredit, women are now running canteens, catering units, cooking for schools, tailoring etc. Women have realized that they have an important role to play in the family and confident about achieving their goals set for their families and make major decisions, thus implying an increase in the influence of women in decision making in their households. Though most of the residents in the village are Muslims, who were once not allowed to move out of their houses, they now have an opportunity to socialize with people being one of the objectives of the SHGs. They move around the village to shops and other places and also travel to relatives when they desire to showing that there is an increase in women's mobility and participation in social activities. The women are enlightened and educated on various issues – political, to handle finances, to talk freely in public and are aware of the present happenings. They are encouraged and motivated to grow in the society. Therefore it can be concluded that there is an increase in their awareness and knowledge.

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Revisiting the role of Muslim organisations in the political revival of the Mappila Muslims of Kerala

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Abstract

This study is an attempt to present role of Muslim organisations in the political revival of the Mappila Muslims of Kerala. Muslims had a prominent role in Kerala's sociopolitical and economic landscape. They held important positions under the Zamorin, the ruler of Calicut at the time, and even served as his admirals. The Mappila fought courageously against the Portuguese. They had their own place in the Mysorean realm as well. This group was the first to take up weapons against the British in the form of peasant uprisings known as Mappila breakouts. But their entry into a nation wide freedom struggle occurred only during the course of Khilafat-non-co-operation movement. They wholeheartedly lined up behind the congress. Even though the rebellion changed their outlook they stood against the British and fought for independence until they win. Following the Malabar Rebellion of 1921, the Mappila community of Kerala experienced a period of political transition.

Key words:- *Malabar, Ulema, Zamorin,* Nishpakshasangam, Kerala Jamiyathul Ulema,

Introduction

Muslims of Kerala played an essential part in the past and current of the state. Their close ties to West Asia were a major source of revenue for the country. The first trade contact between Kerala and West Asia was around BC. Before the arrival of Islam in Kerala, the Arabs had a close relationship with the state as traders. When the Prophet began preaching his mission, they naturally transferred the notion to Kerala, and the Islamic philosophy began to grow there as well. Kerala's rulers provided all facilities for newly formed religious groups to practise their faith. Thus soon the Muslims became a prominent group in the land as traders and the peasants and continued in that position until the advent of the Portuguese. Upon their arrival, they opened atrocities against the Mappilas which prompted them to take up arms against the foreigners. In this fight the most remarkable names were the Kunjali Marakkars , the admirals of the Zamorin. After the era of Kunjalis also the Mappilas continued their struggle against the Portuguese under the Arakal rulers. When the Malabar was occupied by the British once again, they were compelled to take arms. The net result was the series of Mappila outbreaks which started. Between 1836 to 1919 the Malabar area witnessed 32 such outbreaks.Various commissions were appointed by the British Government to report on these outbreaks. T.L Strange commission, the first commission in this concern remarked the reason as Fanatic uprisings. **(** Report of T. L. Strange, dated 25. September1852,) But later commissions like Logan and others pointed out the agrarian discontent as the main reason of these types of uprisings.

The Mappila involvement in national movement

It was a fact that the Mappila community from the very beginning of the British occupation of Malabar stood against them and gave full support to Tippu Sultan in his struggle against the British. But until the beginning of the Khilafath movement, they were not showing interest in the nationalist movement. Their struggles had not a national character. It was Gandhi and Indian National Congress, through the issue of Khilafath brought the Mappilas into the nationalist movement of Kerala. Owing to its religious nature the Mappilas wholeheartedly support the movement and became its part and parcel.Unfortunately the movement turned into a rebellion which pulled the community into trouble and misery. Although the Congress functioned as the chief factor which brought the community into the national movement showed no leniency towards them during the rebellion. Nobody was there to make a voice for them. The British opened severe suppressive measures upon the community. They either deported or imprisoned the leaders of the Mappilas. As a result the Mappilas fell into isolation. To the Congress the Khilafat movement was only a means through which they aimed to ensure the Muslim participation in the national movement (K.K.N,Kurup. Et.al, See P.20). To the Muslims, it became their religious duty to protect the seat of the Caliph. The Muslims were not aware about a struggle without a weapon. When the British opened an atmosphere of terror they retaliated with arms, even though it was against the principles of Non-co-operation.. It was also noticeable that most of the participants of

the khilafath non -co-operation movement were the Mappilas than the Hindus. **(** Madhavan Nair, see pp 65-66). When political issues were intermingled with religion the leaders, could not prevent the people and failed to prevent a rebellion

The Congress leaders were even hesitating to visit the rebellion affected areas. They always stayed back outside the area. When the Mappilas were leaderless the religious leaders took its leadership. The Mappilas began to line up behind the leaders like Ali Musaliyar, his disciple Variyam Kunnathu Kunjahammed Haji ,Chembrasseri Tangal and followed their path. In the later part of the rebellion the Malabar Muslims were brought under these leaders. When Ali Muslaiyar led a procession from Kizhakkepalli to Cerur where the graves of the Mappila martyrs were situated, the police found it as a symbol of possible outbreak .(Hitchcock,see.p.69) and they issued a warrant against Ali Musaliyar, Khilafath secretary of Thirurangadi. The police attacked the mosques and also fired on a mob gathered at the police station. As a result the people took arms. Thus the peaceful movement turned into a rebellion and later into a riot. The attitude of Congress , especially Gandhi was a shock to them. To the Congress the khilafat activities became the part of Muslim madness. They did nothing for the benefit of the Mappila community who had been brought by the Congress itself.

Thus the Malabar rebellion marked the beginning of a new chapter in the history of the national movement of the Mappila community. Even though a group of mappilas under Muhammed Abdurrahman Sahib and E. Moidu Maulavi continued as the full time Congress workers, a large sections of the community began to make a move from secular politics to communal politics. . After the rebellion a number of Muslim organizations and movements emerged among the Mappilas for its socio-political and religious resurgence among them the most important organizations were, the Kerala MuslimAikya Sangam , Kerala Muslim Majlis, The Kerala Jamiyathul Ulema altogether known as Islahi Movement, The Samastha Kerala Jamiyathul Ulema, The Jamaat e Islami and the Tabligue movement. All these organizations played great role in the socio-political resurgence of the Mappila Community.

The role of Kerala Muslim Aikya Sangam and Kerala Muslim Majlis.

The religious reform movement called the Islahi movement led by K.M Maulavi, E.K. Maulavi, Vakkom Muhammed Abdul Khader Maulavi, Seethi Shib etc. had a great role in the political transformation of the Mappila community an organization was founded at Kodngallore in the name of Nishpakshasangam, which later changed its name as Kerala Muslim Aikya Sangam. This organization functioned as a center of Islamic revivalism . A number of resolutions passed it its various annual sessions clearly showed its political stand. Later the movement was amalgamated with a newly formed organization named Kerala Muslim Majlis(Souvenir of Samastha, See p.190) . This organization played an important role in the creation of a political identity among the Mappila community, which later paved the way for the emergence of Muslim League.A large number of League minded persons including Abdul Sattar Sait, B. Pokker Sahib , Uppi Sahib etc., began to be the members of the Muslim League. The Muslim League was founded in 1906 at Dacca. But until 1937 it had no role in the political history of Kerala Muslims(EMS., see P. 316)

A number of factors facilitate in the development of communal politics among the Mappilas. The first and foremost factor behind the development of communal politics was the attitude of the congress during and after the course of the rebellion . During the rebellion ,they betrayed the community. After the rebellion, they followed a leniency policy towards the Hindu community and Hindu organization. Not all but a section. The main thing was that this section consisting of prominent Congress leaders . Further, during the relief activities also they followed this partiality by distributing the relief fund among the Hindus alone. Thus a large section of Muslims kept away from the activities of Congress.

The role of Samastha Kerala Jamiyathul Ulema

It was an organization emerged among the Kerala Jamiyathul Ulema due to ideological differences and was formed under the leadership of Pangil Ahamed Kuty Musaliyar, who once was a strong supporter of Kerala Jamiyathul Ulema. (L.R.S Lekshmi. See P.95) perspectives,

The first name of the organization which was formed in 1925 under the Presidentship of Varakkal Sayyid Abdurahman Ba Alavi Mullakkoya Tangal was the Kerala Jamiyathul Ulema itslef. Its first meeting was held at CalicutValiya Juma Masjid (Sixtieth Anniversary Souvenir See,p15). In 1926 the newly formed organization became a full-fledged and well structured at a convention held at Calicut town under the chairmanship of Sayyid Shihabuddin Cherukuchikoya Tangal and was renamed as Samastha Kerala Jamiyathul Ulema Varakkal Mullakkoya Tangal was elected as its first President and Pangil Ahammed Kutti

Musaliyar,Muhammed Abdul Bari Musaliyar and Muhammed Meeran Muslaiyar were selected as its first vice Presidents. Although its founding aims were typically oriented with religious concerns it had also a great role in arousing the political consciousness of the Mappila community.

Through number of public conferences and debates the Samastha conveyed their messages to the mass and convinced the Mappilas their aims and objectives and also popularize their ideologies among the Mappila masses. They succeeded to win the heart of the people through their e conferences,, annual sessions and debates conducted from 1927 to 1945. All these conferences facilitated in the socio-political mobilization of the Mappila community and the growth of Muslim League in the soil of Malabar. The Samastha played substantial role in the later political development of the Mappila community. They made significant interference in the in the soci- political affairs of the community by giving equal preference to religious matters. . Through their annual conferences they urged the people to think of the need of an identity politics to represent their grievances .A number of resolutions were passed by the organization through its annual conferences concerning with the Mappila community. They vehemently opposed the activities of the Congress and discouraged te people from joining as the Congress members. In its sixth annual conference the Samastha Kerala Jamiyathul Ulema passed a resolution against the Mappila participation in the Indian National Congress. (Anvar Sadiq, Samastha Souviner, See. P.190). They pointed out the attitude and approach of the Congress during and after the rebellion of 1921 and accused the Congress as the main responsible factor which pulled the Mappila community into trouble. They accused the Congress as the main factor behind all torment suffered by the Mappilas after the rebellion of 1921. They strongly argued that the Congress failed to address the problems of Mappila community before the authorities and the public. The Samastha leaders strongly instructed its members to quit the office of the Congress and they never give admission to a Congress Member in this organization (Prabhodanam special edition.1998 April,28)

As a result of the activities of the Samastha Kerala Jamiyathul Ulema a large section of Mappila youth began to make a move from Congress to other political activities mainly to the Muslim League. Thus the Samastha played an important role in the growth of Muslim League in Malabar soil and sometimes its leaders hold the leadership of the Muslim League itself. (P.A Sadiq Faizy,Samastha-Charithrathinte naalvazhikal. See. P. 667). The impact of the activities of the Samastha was clearly visible during the Central Assembly Election held in 1934. In this election the Samastha leaders gave their wholehearted support to the Muslim League candidate against the leading Congress member, Muhammed Abdurrahman Sahib. The election campaign of Abdul Sattar Sait, the Muslim League candidate was led by Pangil Ahammed Kutti Musaliyar, the First Vice President of Samastha Kerala Jamiyathul Ulema. The Mappila community positively responded to the call of the Samastha and in the election Abdul Sattar Sait gained a clear victory over Muhammed Abdurrahman Sahib, the most influential leader of Congress. (A.K Kodoor, , See P. 222). This victory shows the a clear picture of the political influence of Samastha KeralaJamiyathul Ulema among the Mappila Community of Malabar.

Conclusion

The Muslim community, which has been socially and politically oppressed as a result of British atrocities and suppressive measures since the Mappila rebellion of 1921, gains political traction through the timely interference activities of Muslim organisations such as Kerala Muslim Aikya Sangam, Kerala Muslim Majlis, Kerala Jamiyathul Ulema, Samastha Kerala Jamiyathul Ulema, and others. The Kerala Muslim Majlis was the first to draw the Mappila community's attention to the concept of identity politics. Samastha has made a significant contribution to the formation of "Muslim politics" as a means of addressing Muslim issues. As a result of these groups, the Mappila Community's national movement has a new platform and personality. Malabar's Mappila community developed a new political philosophy. A number of Muslim leaders were chosen as Muslim representatives, and as a result, Muslim concerns were brought to the attention of the authorities, and they were granted far greater concessions. As a result, it can be seen that Muslim organisations played a significant part in the political comeback of Kerala's Mappila Muslims.

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Dr. B. R Ambedkar's Thoughts on Agricultural Reforms in India

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Abstract:
Dr.B.R.Ambedkar enriched India legacy through his historical contributions for Education, Social, Economic and political reformation of India before and after Ambedkar strived all through his Life for the empowerment of women and weaker sections against several odds. He was a multi faceted great personality who has statesman whose contributions for the integral development of the mankind regardless of religion, colour, Caste, Creed etc., will be cherished for ever. He is also rightly remembered in history of India. Ambedkar who was a symbol of revolt against all oppression of Indian society. Dr.B.R.Ambedkar his economic contributions in public finance , agriculture economic, state management system, problem of labour ,Indian Caste system and economic developments are few which are observed in this paper. Dr.B.R.Ambedkar wanted reform Indian agriculture sector effective way. Economic thoughts of Ambedkar did not gain much important in the main stream economic. The reason being that he was more popular as a dalit leader rather than a trained economist. To achieved this qualitative method of research was adopted.

Keywords: *agriculture reforms, ambedkar's thoughts, social development*

Introduction:

Babasaheb Dr.B.R.Ambedkar was a reformer, a leading activist and social thinker who dedicated his life, working for the upliftment of the Dalits (the untouchables) and the socially backward class of India. A messiah for the downtrodden, Ambedkar continuously fought for the eradication of caste discrimination that had fragmented the Indian society. Born in a socially backward family, Ambedkar was the victim of caste discrimination, inequality, and prejudice. However, fighting against all odds, he received higher education, becoming the first ever untouchable to do so. After completing his studies, he launched himself politically, fighting for the rights of the depressed class and against the inequality practiced in the society. He was a crusader of social equality and justice. Academically trained as a jurist, he went on to become the first law minister of free India and the framer or chief architect of the 'Constitution of India.' In his later years, he acted as a revivalist of Buddhism in India. He converted to Buddhism, freeing himself of the perils of caste differences and unfairness practiced by the Hindus.

Objectives of the Study:

The present article covers the following main objectives, namely,

- Describing Ambedkar's reforms and views on agricultural reform,
- To analyze the contribution to social development and social justice,
- Finally, Ambedkar's contribution to the economy of India.

Methodology:

Present paper constructed by secondary source data with analysis,

Analysis of the Paper:

A. In the Economic Perspective:

As an economist and humanist, Ambedkar was not involved in the controversy of private and public sectors. He thought of partial Nationalization of industries in order to check the profit motive of the private sector and to break the monopoly of the big industrial houses. In doing so, he had in mind the pitiable conditions of the workers and in fact through industrialization and re- organization or agriculture in India, he wanted not only the improvement of in the standard of living of the workers, but also the .boosting of the national economy with a view to helping the poor and minorities of our society, For this purpose, Ambedkar also argued for making the insurance.- individual and general, a peoples movement. The State should "compel every adult citizen to take out a life insurance policy commensurate with his wages."

The economic ideology of Ambedkar was value- oriented in the sense that he stood for man's dignity and economic welfare together. He didn't favour hedonistic economic approach which stressed as the supreme end of human life. As one can find in his writings. Ambedkar stood for individual's freedom in in choosing any respectable courses of his livelihood. Man should not be tied down to one's ancestral

profession in the name of Dharma.There must be alternative choices of profession and employment for all men and women. Ambedkar economic ideas emphasized that the basic needs of man have to be satisfied and fulfilled within a social situation. No oppression, no explanation and no forced labour ought to be the slogan of the social justice movement currently going on in the country. In other words, in as well as spiritually and should not follow the philosophy."

B. In the Perspective of Social Development:

The economic philosophy of Ambedkar presents the essence of the modem world. Ambedkar knew that there are eternal problems which cannot be solved by any magic formula. And he did not make the mistake of offering Any ultimate solutions. Ambedkar also knew that no programme would ever resolve the basic conflicts in human life, yet he stressed the need of resolving them by keeping in mind the value of justice, liberty, equally and fraternity in the larger interests of mankind. All three are such human resources that help man to build up a nice and noble character which enhance the cause of democracy interwoven with socialism. Especially the state socialism.

Great personalities, who made dynamic changes in the society. He had fully devoted his life for improvement in the condition of downtrodden people in India. He was a great politician, constitutor and economist. His views deals with agriculture and are landmark in the field of economics. His views on land holding, collective farming and land revenue are most useful in the present time.

C. Nationalization of Land and Collective Farming:

After observing the unequal holdings and persistence of tenancy with unfair rents and uncertain tenures, by 1947'Ambedkar came out with radical solution of nationalization of land and collective farming. He felt that neither consolidation of holdings nor tenancy legislation contributes for improving agricultural produce Moreover, these measures cannot help in solving the persistent problems of landless labourers and small farmers. He suggested nationalization of entire agricultural land with collective farming as the solution for the ills of agrarian conditions. It should be the state's obligation to supply the capital necessary for agriculture as well as industry. Ambedkar's scheme suggested that agriculture should be the state industry.

D. In the Perspective of Agriculture:

Ambedkar argued, land was only one of the many factors of production and the productivity of one factor of production is dependent upon the proportion in which the other factors of production are combined. In his words: 'the chief object of an efficient production consists in making every factor in the concern contribute its highest; and it can do that only when it can cooperate with its fellow in the required capacity. Thus, there is an ideal of proportions that ought to subsist among the various factors combined, though the ideal will vary with the changes in proportions'. From this, he proceeds to point out that if agriculture 'is to be treated as an economic enterprise, then, by itself, there could be no such thing as a large or small holding'.

The problem therefore rests on the inadequacy of other factors of production. The insufficiency of capital needed for acquiring 'agricultural stock and implements' arises from savings. There is almost a prophetic statement made by him long before modem theorists of development systematized notions of disguised unemployment or under-employment: "A large agricultural population with the lowest proportion of land in actual cultivation means that a large part of the agricultural population is superfluous and idle". Even if the lands are consolidated and enlarged and cultivated through capitalistic enterprise, it will not solve the problem as it will only aggravate the evils 'by adding to our stock of idle labour'.

E. Agriculture should be organized on the Following Lines:

1. The state should divide the land acquired into farms of standard size and let out the farms for cultivation to residents of the village as tenants (made up of group of families). These tenants may cultivate the land on the following conditions-,

a) The farm should be cultivated as a collective farm;
b) The farm should be cultivated in accordance with rules and directions issued by the government;
c) The tenants should share among themselves in the manner prescribed the produce of the farm left after the payment of charges livable on the farm;

2. The land should be let out to villages without any distinction of caste or creed and in such a manner that there should be no landlord, no tenant, and no landless labourer.
3. It should be the obligation of the State to finance the cultivation of the collective farms by way of supply of water, draught animals, manure, seeds, etc. in order to increase the agricultural output.
4. The State should be entitled;

a. To levy the following charges on the produce of the farm:

- A portion for land revenue,
- A portion to pay the debenture holders; from land acquired,
- A portion to pay for the use of capital goods supplied, and

b. To prescribe penalties against tenants, who break the conditions of tenancy by willfully neglecting to make the best use of the means of cultivation offered by the State or otherwise work prejudicially to the scheme of the collective farming.

Ambedkar proposed that the scheme should be brought into operation as early as possible but in no case shall the period extend beyond the tenth year from the date of the constitution coming into operation. It is a different nationalsation matter that the Indian parliament and entrenched landlord class was not ready to.

F. Perspective on Economy:

Today economic system of the country has undergone drastic changes. As a result privatization has proliferated in all the spheres of economic field. Even the multinational companies have occupied a prominent position in our country and the foreign debt and circumstances have forced our economists and politicians to adopt such ways as to compete in the globle market. But Ambedkar's scheme of socialism was to ensure the country fundamental Rights of the people against unemployment poverty and starvation. He argued that the rights in the political spheres were not enough. The state had to shape and form the economic system which did not allow the concentration of wealth and ownership were likely to become victims at the hands of private Enterprise. So Ambedkar wanted to avoid the dictatorship of the private enterprise in order to safeguard the economic rights of weaker sections of the society.

Conclusion and Suggestions:

Ambedkar scheme aimed at an attempt to establish state socialism with parliamentary democracy in order to safeguard individual liberty and to make it sure that the law of the constituencies prevailed to save both democracy and socialism. That way it would become beyond the reach of the parliamentary majority to amend or abrogate state socialism. There is no doubt, Ambedkar was a socialistic in Spirit and action, but since he couldn't go alone in the constituent Assembly, he left the idea of imposing State star socialism by law However, he was the brain behind the Directive principles of state policies in which a form of socialism was perceived by him . The Directive principles as laid down in the Constitution. Promote the welfare of the. People by securing and protecting as effectively as it may a social order in which social justice, economic welfare and political protection shall inform all the institutions of the national life and want the state direct it's policy towards securing an adequate means of livelihood. That the ownership and control of the material resources of community are also distribute as best to subverse the common good. That the operation f Economic system does not result in the concentration of wealth and means of production to the common detriment.

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The Role of Folk Literature in Society

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Abstract

Folk literature or folklore is an emerging discipline of literature. It is commonly applied to oral, traditional or tribal literature. Originally folk literature is created in regional languages which have no script of their own. It is produced by indigenous, tribal and nomadic tribes. Its major forms are folk songs, proverbs, riddles, and folktales. It is the collection of literature orally transmitted from one generation to the next. The study of folk literature is important because it is about common folks' sorrow, joy and experiences of life. Unfortunately, a few Indian universities and colleges offer courses in folk literature. Folk literature is not always about reality. The study of folk literature, in fact, is a study of folk culture. It is composed in informal and simple language. Most of the time, the creators of folk literature are unknown, illiterate or uneducated people. This paper is an attempt to focus on the role of folk literature in society.

Keywords: Folklore, oral literature, indigenous, folk songs, riddles, folktales, folk culture etc.

Introduction- According to a folklorist William Bascom, "To educate people is one of the functions of folk literature". Therefore, folk literature not only entertains but educates people. Folktales have wise or moral message for children. Therefore, folktales are still popular among children. The elderly people narrate tales to children before they sleep or on other occasions. Through folktales moral values are inculcated in children. It is also said that fairy tales can improve the intelligence, emotional and spiritual value of children. Folktales also help children to improve their imagination which is very important for children's development. Folktales also help children to become responsible citizens. Proverbs, riddles and folk songs also teach people the philosophy of life. Folk Literature can be a potent source of informal education. Education can be either through formal or informal mode. It is said that education is a continuous process. A learner remains in the school or college for a particular period but most of the time he/she is in contact with various stakeholders of education. In this context, folk literature is a potent source of informal education. It plays a very significant role in the tribal or nomadic tribes who keep on moving from one place to another in search of bread and butter. The elderly people in the community inculcate moral values through folk songs, proverbs, riddles, folk drama, folktales, legends etc. The tribal or nomadic communities are still far away from the mainstream society. Even now the literacy rate is very low in these communities. The senior citizens hand over customs, traditions, traditional knowledge, rituals, to the younger generation through various forms of folk literature. Even people from mainstream society learn many things from these people by observation or reading their literature.

Society is a blender of many cultures. India is a multilingual, multicultural and multi-ethnic nation. The study of folk literature helps to understand the culture of a particular tribe or community. The culture of any tribe or community expresses the unique way of lifestyle through a set of systems, beliefs, literature, language, superstitions, myths, customs, traditions, and arts. The components that make the culture of any tribe or community are: Language, Food Habits, Dressing Patterns, Ornaments, Folk Arts, Festivals, Rituals, and Folk literature. I would like to give an example of Banjara, Laman or Lamani Nomadic Tribe in India. It is very interesting to study the folk literature of Banjara community. Ultimately, it helps to be familiar with their unique culture. While stating the greatness of Banjara culture the late Prime Minister Indira Gandhi said, "The weavers weave the cloth with golden threads here or there. This adds beauty. Similarly, the Lambanis are like the golden threads in the rich Indian cultural heritage" (Naik 1).

It is the need of the hour to translate folk literature into English and other languages. Of course, the educated people in the community have been taking efforts for the same. To entertain people is one of the functions of folk literature. It has been playing an important role in entertaining not only people of the tribe but also people from mainstream society. Entertainment is an integral part of human life. People like to be entertained or to entertain others now and then. There are various sources of amusement. Singing is at the center of human life. It is said music is the medicine of mind. People are very fond of folk songs. Folk song is one of the major forms of folk literature. They are composed and sung for entertainment, education, reformation, preaching or even emotional outlet. There are programs of folk music on Television or Radio in which folk songs are presented for entertainment. Storytelling is an integral part of human life. People like to read and narrate stories to others. One of the purposes of storytelling is amusement. Folktale is an important form of folk literature. It includes myths, legends, fairy tales, anecdotes, and short stories. The purpose of folktale is to entertain as well as to preach the young people.

Folk literature plays an important role in preserving folk traditions. Traditionality is an important aspect of folk literature. Folk songs, folktales, proverbs, riddles, legends, myths, traditions, customs, traditional knowledge are handed over from one generation to the next. Thus the young generation tries their level best to preserve folk traditions. Of course, there is an impact of modernization and globalization on folk culture. Folk literature plays the role of an agent of transmission of knowledge. Folk arts provide moral, philosophical and historical knowledge to the people. For example. The folktales about historical heroes point out the qualities of a good person and thus set the patterns of behavior. Thus they help to enhance knowledge about culture and civilization, values and beliefs, norms and behavior which were prevalent in the tribe or community in the past. Folk songs provide knowledge about good and bad, moral and immoral, right and wrong through various types of songs. It helps young people to develop their personality. Proverbs are precise depositories of knowledge. They advise people about right conduct, through wit, satire and irony.

Folk literature has been playing an important role to bring about reformation in society. It is already stated that folk literature is a potent source of informal education. Education whether formal or informal, its primary aim is to bring about change in society. In this context, folk literature can be compared with sages or saints. The folk song is one of the powerful means of social reformation. There exist bad customs, habits and traditions in nomadic or tribal communities. For example: Taking dowry in weddings is a bad custom in society. Law doesn't allow taking dowry from a bride but it's a common practice in almost all the communities. Through folk songs, the poets try to tell people how taking dowry is not good and how this custom has ruined lives of many married women. Some people spend money on drinking liquor, smoking, quarrel, court etc. such people are advised not to borrow money from money lenders who become rich with their money. It has ruined life of innumerable families. The poets try to convince people to leave these bad habits and save families. Even now child marriages are common in tribal and nomadic tribes. There are songs through which the poets and bards tell people that child marriages create various problems. So they should follow rules and laws regarding marriages. In the modern world, parents are neglected, ignored by their children. As a result, they have to live in isolation. Even educated people send their parents to old age home. Such youngsters are advised not to abandon their parents. To drive the point home, the poets give examples of Saint Tukaram and Shravan Bal who served their parents like God.

Conclusion

It has been observed that folk literature has three vital aspects: a body of knowledge, a mode of thought and a kind of art. Folk literature can be used to inculcate human values and a sense of morality in children. The folk songs not only amuse people but they also have values of life. The songs have been providing solace to these hard-working, honest, illiterate, straightforward and superstitious people. Folktales are the great source of entertainment, teaching and preaching. A folktale is a bridge that connects the old and the new generation. The study of folk literature helps one to understand the culture of a particular tribe or community. It should be widely included in the curriculum for formal education as it can become a paradigm of learning. It seems to be the need of time to study folk literature as an independent literary genre.

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Environmental Fortification for Sustainable Growth

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Abstract:

The Industrial pollution, degradation of forests, depletion of ozone layer, the green house gases results in global warming and climate which will have an adverse impact on environment and human health. There is a need for conservation of Biodiversity, protection of wetlands and prevention of environmental pollution, promotion of ecological balance enables sustainable development. There are several provisions provided in Indian Constitution for Protection of environment. There are certain legislations enacted viz. Environment Protection Act, Wildlife Preservation Act, Biodiversity Conservation Act, water and Air pollution prevention Acts etc The Judiciary playing a vital role in protection of Environment. Through Judicial Activism the Supreme Court can issue directions under writ Jurisdiction under Article 32 of Indian Constitution. The United Nation Organisation passed several UN conventions like Ramsar Convention on protection of wetlands, and UN convention on Biodiversity etc. World Environment Day is being celebrated across the world on 5th June every year. Present paper focus on the various environmental protection policies in surrounding countries and its history and future with the role for conservation our environment.

Keywords: *Environment, Protection, Ozone layer, Global Warming.*

Introduction:

Global warming is the term used to describe a gradual increase in the average temperature of the Earth's atmosphere and its oceans, a change that is believed to be permanently changing the Earth's climate. Even though it is an ongoing debate, it is proved by the scientists that the planet is warming. Global warming is for real The average global temperatures are higher than they have ever been during the past millennium, and the levels of CO in the atmosphere have e crossed all previous records. The climate is changing. The earth is warming up, and there is now overwhelming scientific consensus that it is happening, and human-induced. With global warming on the increase and species and their habitats on the decrease, chances for ecosystems to adapt naturally are diminishing. Many are agreed that climate change may be one of the greatest threats facing the planet. Recent years show increasing temperatures in various regions, and increasing extremities in weather patterns. Climate Change resulting from increased green house gases concentrations has the potential to harm societies and eco-systems. In particular, agriculture, forestry, water resources, human health, costal settlements and natural eco-systems will need to adapt to a changing climate or face diminishing functions. The changing climate patterns, and especially increased frequency and severity of extreme events, will increase vulnerability to the natural disasters, both slower on set ones such as drought and rapid onset disaster such as flood and cyclones.

Forest Conservation:

The role of forests in the national economy and in ecology was emphasized in the 1988 National Forest Policy, which focused on ensuring environmental stability, restoring the ecological balance, and preserving the remaining forests. Other objectives of the policy were meeting the need for fuelwood, fodder, and small timber for rural and tribal people while recognizing the need to actively involve local people in the management of forest resources. Also in 1988, the Forest Conservation Act of 1980 was amended to facilitate stricter conservation measures. The 2009 Indian national forest policy document emphasizes the need to combine India's effort at forest conservation with sustainable forest management. India defines forest management as one where the economic needs of local communities are not ignored; rather forests are sustained while meeting nation's economic needs and local issues through scientific forestry.

Protection of Wetlands:

Wetlands are complex ecosystems and encompass a wide range of inland, coastal and marine habitats. They share the characteristics of both wet and dry environments and show immense diversity based on their genesis, geographical location, hydrological regimes and substrate factors. They include flood plains, swamps,

marshes, fishponds, tidal marshes natural and man-made wetlands. Among the most productive life support, wetlands have immense socio-economic and ecological importance for mankind. They are crucial to the survival of natural biodiversity. They provide suitable habitats for endangered and rare species of birds and animals, endemic plants, insects besides sustaining migratory birds. India has a wealth of wetland ecosystems distributed in different geographical regions. India is also a signatory to the Ramsar Convention on Wetlands and the Convention of Biological Diversity; Apart from government regulation, development of better monitoring methods is needed to increase the knowledge of the physical and biological characteristics of each wetland resource, and to gain, from this knowledge, a better understanding of wetland dynamics and their controlling processes.

The Ramsar Convention on Wetlands was developed as a means to call international attention to the rate at which wetland habitats were disappearing, due to lack of understanding of their important functions, values, goods and services. Governments which have joined the Convention are expressing their willingness to make a commitment for helping to reverse that history of wetland loss and degradation. In addition, many wetlands are international systems lying across the boundaries of two or more countries, or are part of river basins that include more than one country.

Conservation of Biodiversity:

Conservation of Biodiversity is the need of the hour. The Biological Diversity Act, 2002 is a federal legislation enacted by the Parliament of India for preservation of biological diversity in India, and provides mechanism for equitable sharing of benefits arising out of use of traditional biological resources and knowledge. The Act was enacted to meet the obligations under Convention on Biological Diversity (CBD), to which India is a party. The National Biodiversity Authority (NBA) was established in 2003 to implement India's Biological Diversity Act 2002. The NBA is a Statutory, Autonomous Body and it performs facilitative, regulatory and advisory function for the Government of India on issues of conservation, sustainable use of biological resources and fair and equitable sharing of benefits arising out of the use of biological resources.

Wildlife Conservation:

Wildlife conservation is the practice of protecting endangered plant and animal species and their habitats. Among the goals of wildlife conservation are to ensure that nature will be around for future generations to enjoy and to recognize the importance of wildlife and wilderness lands to humans. Many nations have government agencies dedicated to wildlife conservation, which help to implement policies designed to protect wildlife. Numerous independent non-profit organizations also promote various wildlife conservation causes. Wildlife conservation has become an increasingly important practice due to the negative effects of human activity on wildlife. Wildlife Conservation Act 2002 was enacted to protect wildlife in India.

The main objective of Project Tiger is to ensure a viable population of tiger in India for scientific, economic, aesthetic, cultural and ecological values and to preserve for all time, areas of biological importance as a natural heritage for the benefit, education and enjoyment of the people. Project Elephant (PE), a centrally sponsored scheme, was launched in February 1992 to provide financial and technical support to major elephant bearing States in the country for protection of elephants, their habitats and corridors.

Ozone Depletion:

Ozone depletion describes two distinct but related phenomena observed since the late 1970s: a steady decline of about 4% per decade in the total volume of ozone in Earth's stratosphere (the ozone layer), and a much larger springtime decrease in stratospheric ozone over Earth's polar regions. The latter phenomenon is referred to as the ozone hole. In addition to these well-known stratospheric phenomena, there are also springtime polar tropospheric ozone depletion events. The details of polar ozone hole formation differ from that of mid-latitude thinning, but the most important process in both is catalytic destruction of ozone by atomic halogens. The main source of these halogen atoms in the stratosphere is photo dissociation of man-made halocarbon refrigerants.

These compounds are transported into the stratosphere after being emitted at the surface. Both types of ozone depletion were observed to increase as emissions of halo-carbons increased. CFCs and other contributory substances are referred to as ozone-depleting substances (ODS). This is used to protect the ozone layer which protect humans from ultra-violet rays of Sun.

Environmental Impact Assessment

An environmental impact assessment (EIA) is an assessment of the possible impacts that a proposed project may have on the environment, consisting of the environmental, social and economic aspects. The

purpose of the assessment is to ensure that decision makers consider the environmental impacts when deciding whether or not to proceed with a project. The International Association for Impact Assessment (IAIA) defines an environmental impact assessment as "the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made." EIAs are unique in that they do not require adherence to a predetermined environmental outcome, but rather they require decision makers to account for environmental values in their decisions and to justify those decisions in light of detailed environmental studies and public comments on the potential environmental impacts.

Environment and Indian Constitution

The Indian Constitution guarantees justice, liberty and equality to all citizens of the country. In Maneka Gandhi's case the court gave a new dimension to Article 21. It held that the right to 'live' is not merely confined to physical existence but it include within its ambit the right to live with human dignity. The same view was reflected by Court in Francis Coralie V. Union Territory of Delhi said that the right to live is not restricted to mere animal existence. Article 21 also constitute right to get pollution free water and air. Article 48 of Directive Principles of State Policy directs that the State to take steps to organize agriculture and animal husbandary on modern and scientific lines. Again Article 48-A requires the State to take steps to protect and improve the environment and to safeguard the forests and wildlife of the country. In M.C. Mehta (II) V. Union of India, the Supreme Court, relying on Article 48-A gave direction to Central and State Governments and various local bodies and Boards under the various statutes to take appropriate steps for the prevention and control of pollution of water. Article 51-A says that it shall be the duty of every citizen of India to protect and impove the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living.

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Gender Equality as a Major Sustainable Development Goal

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Introduction:

Gender equality has become a major issue in various countries across the world. Especially in the third world countries and some of the developing countries like India. The women are facing a variety of problems in all these countries from domestic to political and economical. Women empowerment is seen on paper only, especially in India where there is a male domination in the society. In many countries, women are treated as slaves to men and even they don't get basic rights as a human being. The roles of women are still restricted in the society by the male community and therefore, there is an urgent need to address various issues related to gender equalities at a global level. The United Nations Development Programme (UNDP) prepared a draft of 17 Sustainable Development Goals (SDG) in 2015 to address various issues related to human life. The SDG number 4 belongs to Gender Equality which is off course a major concern now days. Girl Childs in third world countries and some of the developing countries are still deprived from their basic rights such as food, nutrition, sanitation and education. It certainly harms the quality of their life and their social independence. Lack of education creates measurable problems like

Issues of Gender Equality in India:

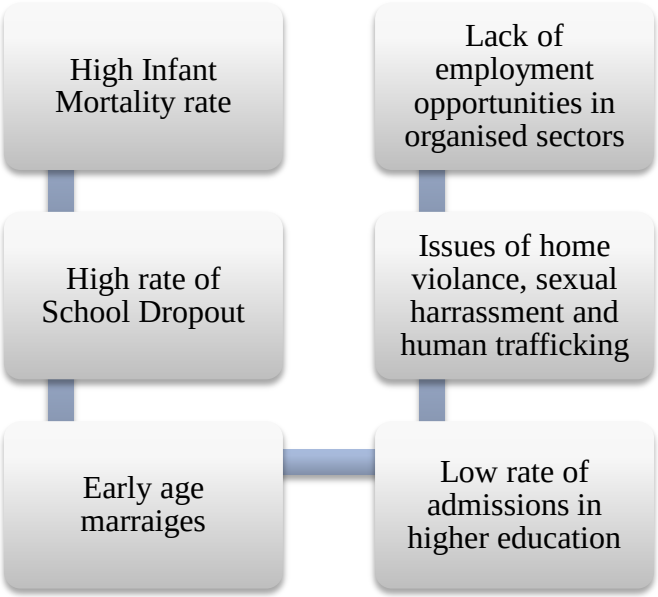
Every child deserves to reach her or his full potential, but gender inequalities in their lives and in the lives of those who care for them hinder this reality. Wherever they live in India girls and boys see gender inequality in their homes and communities every day – in textbooks, in movies, in the media and among the men and women who provide their care and support. Across India gender inequality results in unequal opportunities, and while it impacts on the lives of both genders, statistically it is girls that are the most disadvantaged. Globally girls have higher survival rates at birth, are more likely to be developmentally on track, and just as likely to participate in preschool, but **India are the only large country where more girls die than boys**. Girls are also more likely to drop out of school.In India girls and boys experience adolescence differently. While boys tend to experience greater freedom, girls tend to face extensive limitations on their ability to move freely and to make decisions affecting their work, education, marriage and social relationships. As girls and boys age the gender barriers continue to expand and continue into adulthood where we see only a quarter of women in the formal workplace. Some Indian women are global leaders and powerful voices in diverse fields but most women and girls in India do not fully enjoy many of their rights due to deeply entrenched patriarchal views, norms, traditions and structures. India will not fully develop unless both girls and boys are equally supported to reach their full potential. There are risks, violations and vulnerabilities girls face just because they are girls. Most of these risks are directly linked to the economic, political, social and cultural disadvantages girls deal with in their daily lives. This becomes acute during crisis and disasters. With the prevalence of gender discrimination, and social norms and practices, girls become exposed to the possibility of child marriage, teenage pregnancy, child domestic work, poor education and health, sexual abuse, exploitation and violence. Many of these manifestations will not change unless girls are valued more.

Issues of Gender Equalities in India:

1) **High Infant Mortality Rate:**
   India accounts for more girl child infant mortality rate than many other countries in the world. India's preference for sons is not only preventing girls from being born, but is also causing higher mortality among girls who *are* born. A recent study published in *Lancet Global Health* has found that, on average, about 239,000 girls under the age of five die each year in the country because of their gender – in part due to unwanted child-bearing and neglect (Khullar, 2018).
2) **High Rate of School Dropout**
   The average dropout rate of girls was 17.3% at the secondary education level and 4.74% at the elementary level in 2018-19, the Women and Child Development (WCD) Ministry said on Friday. In 2017-18, the average dropout rate was 18.39% at the secondary education level and 4.1% at the elementary level, it stated. The average dropout rate of girls in 2016-17, was 19.81% at the secondary education level and 6.34% at the elementary level (Hindu, 2021).
3) **Early Age Marriages:**

A girl who is married as a child is more likely to be out of school and not earn money and contribute to the community. She is more likely to experience domestic violence and become infected with HIV/AIDS. She is more likely to have children when she is still a child. There are more chances of her dying due to complications during pregnancy and childbirth. Estimates suggest that each year, at least 1.5 million girls under the age of 18 get married in India, which makes it home to the largest number of child brides in the world - accounting for a third of the global total. Nearly 16 per cent adolescent girls aged 15-19 are currently married (Unicef, 2021).

Diagram: Issues of Gender Equalities in India



4) Low rate of admissions in higher education

The rate of women higher education was very poor in India in 1951. Only 13 girls after per 100 boys were able to take education of graduation level. However, in the past few decades this scenario has changed drastically and now 41 students out of per 100 students in higher education are girls. But the major question arises about the post-graduation education where only 21% girls take higher education and remaining are dropouts (Anita, August 2020)**.**

5) Issues of home violence, sexual harassment and human trafficking

Violence against women – particularly intimate partner violence and sexual violence – is a major public health problem and a violation of women's human rights. Estimates published by WHO indicate that globally about 1 in 3 (30%) of women worldwide have been subjected to either physical and/or sexual intimate partner violence or non-partner sexual violence in their lifetime. Most of this violence is intimate partner violence. Worldwide, almost one third (27%) of women aged 15-49 years who have been in a relationship report that they have been subjected to some form of physical and/or sexual violence by their intimate partner (WHO, 2021).

6) Lack of employment opportunities in organized sectors

Majority of the working women in India are contributing in the unorganized sector and in small units of family orientation. The literacy rate of graduating women is still very low as compared to women population. Thus the actual women workforce participation in organized sector is very less or insignificant. Women workforce participation is highly observed in metropolitan cities and highly populous cities in India. But in semi urban or rural areas, women don't get many chances to work in the organized sector. Especially women are working in schools, health centers, small industries and small shops only. Therefore there is no gender equality in many sectors where women can work shoulder to shoulder with men.

Conclusion

Women empowerment is chattered at every corner of the nation. But the matter of fact is that it remains on the paper only for a large number of women in India. The gender equality is not only essential from the socio-economic point of view, but also from the view point of female dignity and respect in the society.

Women are equally contributing in every field of the economy and therefore, they deserve equal privileges as men. Gender equality doesn't only refer to providing equal status and equal opportunities to women, but in a nut shell, it refers to the mass sense of humanity to women. Gender equality is not possible till women exploitation at large doesn't stop. Countries are now making special laws to protect women rights, but women would be truly free when they'll get freedom without any fear in the society and without the need of any laws. The cases pending in all types of courts in India are an evidence of the women's struggle to get their fundamental human rights in the society. So gender equality to women will not be something which is thrown at them, but something which they earn by dignity and pride.

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Importance and Need of Information Technology in Education.

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Introduction :

Information technology (IT) is the use of computers to store or retrieve data and information. These ***important*** inventions led to the ***development*** of the personal computer (PC) in the 1970s, ... students to meet the computer technology needs of business, government, healthcare, ***schools***, and other kinds of organizations .Information technology is playing a major role for both, the students, to achieve a better understanding, learning and education while teachers keep themselves up to date and improve their teaching skills. and update their own record from time to time. **Technology education** is the study of technology , in which students "learn about the processes and knowledge related to technology".[1]

Importance :

Information technology can be used to promote the opportunities of knowledge dissemination. It can help the teachers and students having up-to-date information and knowledge. Accurate and right information is necessary for effective teaching and learning; and information technology. It increases the student's engagement and motivation and accelerates learning. Even for toddlers, digital learning/technology involves the use of all their senses while learning in a very playful manner. With technology, educators, students and parents have a variety of learning tools at their fingertips. In the world that we currently live in, technology is a very vital factor. With each passing day a new software or gadget is being brought into the market that serves to improve our lives in one way or another and make it much easier and also to advance an already existing software or gadget. However, it is important to note that despite the fact that technology plays a big role in making our lives easier, it is not the only role it has. Technology is increasingly growing it's **importance in the education** sector. The more technology advances, the more benefits it provides for students at every education level.

Why Information Technology is needed in education:

1. Access to education anytime anywhere is needed
2. Information explosion is an ever increasing phenomena therefore there is need to get access to this information
3. IT is important in meeting the needs of variety of learners
4. Technological literacy is a requirement of the society that the individuals should possess
5. IT can increase access and bring down the cost of education to meet the challenges of illiteracy and poverty

Significance of Information Technology in education

- **Access to variety of learning resources**

  In the era of technology, IT aids ample resources to improve the teaching skills and learning ability. With the help of IT, it is now easy to provide audio visual education. The learning resources are being widens and widen. Now with this vivid and vast technique as part of the IT curriculum, learners are encouraged to regard computers as tools to be used in all aspects of their studies. In particular, they need to make use of the new multimedia technologies to communicate ideas, describe projects, and order information in their work.

- **Immediacy to information**

  IT has provided immediacy to education. New IT has often been introduced into well-established patterns of working and living without radically altering them. For example, the traditional office, with secretaries working at keyboards and notes being written on paper and manually exchanged, has remained remarkably stable, even if personal computers have replaced typewriters.

- **Any time learning**

  Now in the year of computers and web networks the pace of imparting knowledge is very fast and one can be educated .One can study whenever he wills irrespective of whether it is day or night and irrespective of being in India or in US because of the boom in IT.

- **Collaborative learning**

  Now IT has made it easy to study as well as teach in groups or in clusters. With online we can be united together to do the desired task. Well-organized postal systems, the telephone (fixed and mobile), and various recording and playback systems based on computer technology all have a part to play in educational broadcasting in the new millennium. The Internet and its Web sites are now famous to many children in developed countries and among educational elites elsewhere, but it remains of little significance to many more, who lack the most basic means for subsistence.

- **Multimedia approach to education**

  Audio-Visual Education, planning, preparation, and use of devices and materials that involve sight, sound, or both, for educational purposes. Among the devices used are still and motion pictures, filmstrips, television, transparencies, audiotapes, records, teaching machines, computers, and videodiscs. The growth of audio-visual education has reflected developments in both technology and learning theory.
- **Authentic and up to date information**

  The information and data which are obtained on the net is purely correct and up to date.

  Internet, a collection of computer networks that operate to common standards and enable the computers and the programs they run to communicate directly provides true and correct information.
- **Online library**

  Internet supports thousands of various kinds of operational and experimental services one of which is online library. We can get plenty of data on this online library.

  As part of the IT curriculum, learners are encouraged to regard computers as tools to be used in all aspects of their studies. In particular, they need to make use of the new multimedia technologies to communicate ideas, describe projects, and order information in their work. This requires them to select the medium best suited to conveying their message, to structure information in a hierarchical manner, and to link together information to produce a multidimensional document.
- **Distance learning**

  The convergence of increased demand for access to educational facilities and innovative communications technology has been increasingly exploited in face of criticisms that distance learning is an inadequate substitute for learning alongside others in formal institutions. The cost per student has been reduced. At the same time, students studying at home can save time and other costs.
- **Better access to children with disabilities**

  Information technology has brought radical changes in the life of disabled children. IT provides various software and system to educate these poor people. Unless provided early with special training, profoundly deaf since birth are incapable of learning to speak. Deafness from birth causes severe sensory deprivation, which can seriously affect a person's intellectual capacity or ability to learn.

Conclusion :

In the world that we currently live in, technology is a very vital factor. With each passing day a new software or gadget is being brought into the market that serves to improve our lives in one way or another and make it much easier and also to advance an already existing software or gadget. Technology is increasingly growing it's **importance in the education** sector. Technology that is made use of in the classroom is very beneficial in helping the students understand and absorb what they are being taught.

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Role of Biodiversity in Sustainable Development.

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Abstract:

Biodiversity is the term given to verity of life on earth. It is the variety within and between all species of plants, animals and micro-organism and the ecosystems within which they live and interact. The biodiversity we see today is result of 3.5 billion years of evaluation. Unfortunately, due to humanity over exploitation of natural resources, our unsustainable development and the resulting disturbances to the environment, we are undergoing the six-extinction crisis on this planate and degrading natural ecosystems at an unprecedented rate. Biodiversity conservation is about saving life on Earth in all its forms and keeping natural ecosystem functioning and healthy. Sustainable Development is the organizing principle for meeting human development goals while simultaneously sustaining the ability of natural systems to provide the natural resources and ecosystem services based upon which the economy and society depend. Sustainable development can be defined as development that meets the needs of the present without compromising the ability of future generation to meet their own needs.

Keywords: Biodiversity, environment, ecosystem, Sustainable development.

Aims & Objectives:

1. To study concept of Biodiversity and Sustainable development.
2. Add value of biodiversity and generate natural products through bio-prospecting.
3. Promote the development and discussion of a range of sustainable use technologies.
4. To find out importance of biodiversity and sustainable development of human life.

Biodiversity is the part of natural which includes the differences in genes among the individuals of species; the variety and richness of all the plant and animal species at different scales in space-locally, in a region, in the country and the world; and types of ecosystems, both terrestrial and aquatic, within a defined area. An advantage of this definition is that is seems to describe most circumstances and presents a unified view of the traditional three levels biological variety has been identified.

- Genetic diversity.
- Species diversity.
- Ecosystem diversity.

In India we have 320 million hectors of land, and 200 million hectares of exclusive economic zone in the sea, within which are distributed some 120,000known and perhaps another 400,000 as yet un described species of microbes, plants and animals. In a country with this rich heritage of biological diversity, it is obviously not possible to census the distribution of each and every species based on field studies alone.

Biodiversity Conservation & Sustainable use:

The conservation of biodiversity means the management of human use of the biosphere so that it may give maximum benefit to present generation while in maintaining its potential to meet the requirements of the future generations. Biodiversity holds an enormous potential of transforming the content's agricultural and industrial systems to contribute to economic growth and poverty reduction. The unique species of plants and animals as well as ecosystems constitute the continent's natural wealth. However, the diversity is underutilized and is being lost at alarming rates. Conserving and promoting sustainable use of bio-diversity is one of the challenges is that African countries have committed themselves to addressing. That is manifested by the number of countries that have ratified the United Nations convention on biological diversity and it's Cartagena. Protocol on biosafety as well as such regional treaties as the African convention on the conservation of nature. For sustainable use and conservation of biodiversity African countries will need to hams and apply science and technology. This is because conservation and sustainable use are knowledge intensive activities and cannot be attained without investment in the generation and application of scientific knowledge and technological innovations. The New partnership for African's development framework document and the CBD explicitly recognizes this for example, the CBD contains specific provisions on the need to strengthen scientific and technological capacities for conversation. Its calls on contracting parties to invest in research and innovation to generate technologies for conservation and sustainable use of biodiversity. African countries to establish regional networks of centers of excellence in science for conversation and sustainable use of the continent's biodiversity.

Recommendations for biodiversity & Sustainable development:

1. To maintain essential ecological processes and life supporting systems air, water & soil.

2. Organizing germplasm collection missions based on agreed upon guidelines.
3. Identifying and networking competent process by the network of institutions.
4. Conducting or offering training I biodiversity perspectives.
5. Screening samples for networking competent rural development institutions for biological prospecting.

Conclusions:

The study of diversity is highly useful in understanding the importance of biodiversity and sustainable development.The classification of biogeographically region on the basis of geographical pattern is highly useful in the identification of major biogeographical habitat, and all objectives will be achieved through the development and implementation of scientific projects and human life.

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Undoped Zinc Oxide Thick Films for Gas Sensing Applications Prepared By Screen Printing Technique.

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Abstract:
Thick films of pure ZnO was prepared by screen printing technique for sensor applications. Nano crystalline ZnO powder was prepared by co-precipitation method. The various characterization techniques such as XRD, scanning electron microscopy (SEM). Zno has been found to exhibit sensitivity to C_2H_5OH, C_2H_2, CO and other species. The gas sensing properties were studied towards reducing gas CO. it is observed that the nanoparticles of ZnO show high sensitivity to CO at operating temperature.

Keywords: Nano crystalline, ZnO, gas sensing , XRD,SEM.

Introduction:

Zinc oxide (ZnO) is one of the material studied as a gas sensor, ZnO has good chemical and thermal stability under operating conditions also high mobility of conduction electron in the material (1,2) zinc oxide (ZnO) is one of the most prominent metal oxide semiconductor. It is an n-type semiconductor of hexagonal(wurtzite) structure with direct energy wide band gap of about 3.37eV at room temp. because of its good electrical and optical properties ,thermal/ chemical stability abundance in nature, low cost and absence of toxicity, this materials has got wide applications in electronic and optoelectronic devices such as transparent conductors , solar cells, windows, gas sensors, surface acoustic wave devices, heat mirrors etc.(3) Semiconducting metal oxide sensors have been extensively studied due to their simple preparation and high sensitivity under ambient conditions.(4-9) it was found that ZnO exhibits pronounced gas sensing properties towards many toxic / non toxic gases such as NO_2, SO_2,ethanol, CO etc.(10-20) ZnO nano structures could be synthesized by several techniques such as vapour deposition, oxidation, sputtering and pulse laser deposition, several deposition method have been used to grow undoped and doped ZnO films such as sprey pyrolysis, evaporation, chemical vapour deposition, magnetron sputtering,sol-gel techmique and screen printing technique.(21) The aim of present study to prepare ZnO thick films of nano-powders by screen printing technique on glass substrate and to investigate their sensing properties for CO gas. Among the various metal oxide additives tested. ZnO is outstanding in promoting the sensing properties to CO in air.

Applications of the sensors: Semiconducting oxide are widely used as robust sensors for the toxic, hazardous and combustible gases, for its possible application to UV light emitters, spin functional devices gas / odor sensors, transparent electronic devices, surface acoustic wave devices etc.

Materials and Method: Zinc oxide powder was synthesized by CBD method on glass substrates at room temperature. The deposition procedure consists of preparation of 0.1 M solution of $ZnSO_4$ and 50% of NH_3 solution (fisher Scientific, reagent grade, without further purification). $ZnSO_4$ and NH_4OH precursors were used for the deposition of ZnO films. Zinc oxide films had been deposited at room temperature, these films were annealed in air at 200 ^{0} C for 2 hours to get pure zinc oxide films.

Thick Film preparation: Zinc oxide thick films were prepared on glass substrate by using standard screen-printing technique. The calcinated nano-sized ZnO powder was crushed and mixed with glass frit and ethyl cellulose. The mixture was then mixed with butyl carbitol acetate to make the thixotropic paste. The paste was then screen printed on glass substrate. The films were dried under IR-lamp for 30 min and then fired at 400 ^{0} C for 2 hours.

Characterization: The structural properties of ZnO films were investigated using XRD analysis from 20-80^0. The structure of the powder as analyzed with X-ray diffractogram (B.V. PW-3710 Based Model) using CuK_a radiation with a wavelength 1.54056 A^0. The SEM micrograph studies were carried using SEM model JEOL-JSM6350, Kolhapur. Elemental analysis was carried out by Energy dispersive X-ray microanalysis (EDX). Thickness measurements were carried out using a Taylor-Hobson system. Electoral and gas- sensing characteristics were measured using a static gas-sensing system.

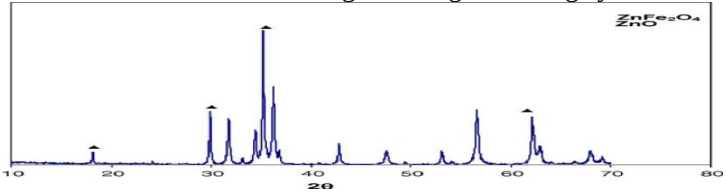

Fig. 2. X-ray diffraction pattern of the mixture ratio 60/40 mol. % of ZnO powder.

Details of the gas sensing system: The sensing performance of the sensors was examined using a static gas sensing system. There were electrical feeds through the base plate. The heat was fixed on the base plate to heat the sample under test up to required operating temperatures. The current passing through the heating element was monitored using a relay with adjustable ON and OFF time intervals. A Cr-Al thermocouple was used to sense the operating temperature of the sensors. The output of the thermocouple was connected to digital temperature indicators. A gas inlet valve was fitted at one port of the base plate. The required gas concentration inside the static system was achieved by injecting a known volume of test gas using a gas injecting syringe. A constant voltage was applied to the sensors, air was allowed to pass into the glass dome after every gases exposure cycle.

Results and Discussion:

X-ray diffraction study – the x-ray diffraction pattern of ZnO powder is shown in figure. The observed'd' values compared with standard 'd' values and were in good agreement with standard 'd' values matched with JCPDS data card number 82-1042. The structure possesses the hexagonal wurtzite structure may be attributed to the different preparation method which may yield different structural defects. The crystalline size was determined from full width of half maximum of the most intense peak obtained by shown scanning of X-ray diffraction pattern. The grain size was calculated by using Scherer's formula. $d = 0.9 \lambda / \beta \cos \theta$. The crystalline size can be calculated by using Scherrer equation (22, 23). Where d is the crystalline size, λ is the x-ray wavelength of the CuKα source (λ= 1.54056 A^0) , β is the FWHM of the most predominant peak at 100 % intensity. θ is the Braggs angle at which peak is recorded. It was found at 85 nm.

E-DAX spectrum- As shown in figure 2, the spectra indicates that the prominent peak was the Zn line followed by O line. The other peak in the spectra was Au peaks from the gold coating treatment used in preparation for EDX observation. This revealed the purity of the material.

Composition of ZnO thick film- Table-1 shows the composition of the films fired at 400^0C. the EDX spectrum showed the presence of only Zn and Oxygen from the analysis it was found that ZnO films are nonstoichiometric. The deficiency or excess of any type of atom in the crystal results in a distorted band structure, with a corresponding increase in conductivity. Tin oxide looses oxygen on heating so that tin is then excess. The oxygen, of course, evolves as an electrically neutral substance so that it is associated with each excess tin ion in the crystal; there will be two electrons that remain trapped in the solid material, thus leading to nonstoichiometry in the solid. This leads to the formation of the n-type semiconductor.

Element	Mass%	At %
O	14.85	40.89
Zn	85.15	59.11
Total	100	100

Table-1:Composition of the ZnO films at 400^0C firing temperature.

Thickness measurement- the thickness of the films were observed to be in the range from 30 to 40 µm. The reproducibility of the film thickness was achieved by maintaining the proper theology and thixotropy of the p aste.

Thermoelectric power measurement: The n-type semiconductivity of thick film of ZnO was confirmed by measuring the thermo-electromotive force of the thick film samples. The ZnO were observed to be n-type materials.

Sensing film preparation and characterization of the gas sensing properties:

The undoped ZnO sensing film was prepared by mixing the nano particles into an organic paste composed of ethyl cellulose and terpineol, which acted as a vehicle binder and solvent, respectively. The resulting paste was screen printed. The films were then annealed at 4000C for 2 hr (with heating rate of 2 ^{0}C/ min) for binder removal. The morphology and the cross section of sensing films were analyzed by SEM.

Conclusion:

The structure and sensing properties of ZnO films as a CO gas sensor with various thickness obtained by screen printing system were investigated. The structural characteristics reveal that the grain size were enhanced as the film thickness was increased which resulting in decrease in the total surface area as a result. It gives low sensing sensitivity. Furthermore the sensitivity of the gas sensor also increased as the concentration of CO gas was increased. The sensitivity as well as the response time was improved by increasing the operation temperature. In the study, the maximum sensitivity was obtained for the 89nm film at the operation temperature of temperature 200 ^{0}C.

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End Hunger - India: Contests to Meet the Goal

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Abstract

At the United Nations Sustainable Development Summit in 2015, world leaders adopted the 2030 Agenda for Sustainable Development, Implementation and success will rely on countries' own sustainable development policies, plans and programmes. Guided by the goals, it is now up to us, government, business, civil society and general public to work together to build a better future for everyone. Over the next fifteen years, with these new Goals that universally apply to all, countries will mobilize efforts to end all forms of poverty, fight inequalities and urgency of climate change, while confirming that no one is left behind. The new Goals are unique in that they call for action by all countries to promote prosperity while protecting the planet. They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and addresses a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection.Current paper discusses about the second sustainable goal which is aimed to end hunger, achieve food security, improve nutrition and promote sustainable agriculture. Why the goal is too much vital for each and every life on this planet earth to survive. Food was, is and always be the basic need for human being. The attempts to meet this goal are too much important for the overall development of the mankind.

Introduction

At the United Nations Sustainable Development Summit in 2015, world leaders adopted the 2030 Agenda for Sustainable Development, which includes a set of 17 Sustainable Development Goals (SDGs) aimed at ending poverty, fighting inequality and injustice and tackling climate change by 2030. These 17 goals, listed below as...

Sustainable Development Goals

1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. Ensure healthy lives and promote well-being for all at all ages
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. Achieve gender equality and empower all women and girls
6. Ensure availability and sustainable management of water and sanitation for all
7. Ensure access to affordable, reliable, sustainable and modern energy for all
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10. Reduce inequality within and among countries
11. Make cities and human settlements inclusive, safe, resilient and sustainable
12. Ensure sustainable consumption and production patterns
13. Take urgent action to combat climate change and its impacts
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Theme- Goal 2 – Zero Hunger

pledges to end hunger, achieve food security, improve nutrition and promote sustainable agriculture

Food is the essence of life and the bedrock of our cultures and communities. Planet Earth has provided us with tremendous resources. Still Hunger is the leading cause of death in the world. In a world where we produce enough food to feed everyone, 690 million people still go to bed on an empty stomach each night. It is due to unequal access to resources and incompetent handling which leaves millions of people malnourished. Every day too many men and women across the globe struggle to feed their children a nutritious meal. Eradicating hunger and malnutrition are one of the great challenges of our time and is the

priority of the World Food Programme. But there is still a long way to go, and no one organization can achieve Zero Hunger if it works alone.

world food programme proposed five steps towards Zero Hunger as:

1. Put the furthest behind first which deals with the expansion of social protection scheme providing opportunity for equitable economic growth to make good business sense.
2. Pave the road from farm to market: It suggests innovation and investment in supply chain of agricultural produce for development of sustainable durable markets. It also directs to improve rural infrastructure such as roads, storage and electrification for reaching farmers to wider consumer base.
3. Reduce food waste is most important to achieve our goal whether it is at any stage like during production of food or unprocessed crops or poor storage. We should never ever waste food on our plate. Value the food and use it properly.
4. Encourage a sustainable variety of crops: farmers need to explore for diverse range of crops which sustain in the future climate change conditions. We should also need to build a market about the nutritional importance of eating a wide range of foods.
5. Make nutrition a priority: Nursing mothers and children require nutritious food to prevent stunting and promote healthy development. We must ensure this to happen with more government schemes.

Role of individual to meet the goal-2.

Everyone can contribute to meet the Goal-2 using these eight targets to eradicate world hunger.

1. Universal access to safe and nutritious food for each and every one on this planet earth all year round.
2. End all forms of malnutrition by addressing the nutritional need of adolescent girls, pregnant and lactating women and children under 5.
3. Double the productivity and incomes of small-scale good producers
4. Sustainable food production and resilient agricultural practices maintain the genetic diversity in food production to maintain ecosystem and face the changing climatic conditions and that progressively improve land and soil quality.
5. Maintain the genetic diversity in food production through managed and diversified seed and plant bank at every level, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.
6. Invest in rural infrastructure, agricultural research, technology and gene banks in order to enhance agricultural productivity in developing and under developed countries.
7. Prevent agricultural trade restrictions and market distortion and export subsidies should be eliminated in order with the mandate of the Doha Development Round.
8. We must adopt measures to ensure proper functioning of stable food commodity market and facilitate timely access to market information regarding food reserve to help limit extreme food price volatility.

India and zero hunger

India has experienced remarkable economic growth in recent years and remains one of the fastest growing economies in the world. However, poverty and food insecurity are still areas of concern in spite of many strides.

The Zero Hunger Challenge is extremely relevant for India. While the country has 18 percent of the world's population, 25 percent of its people go hungry. An expanding population tied with altering climates and land use pressures, surges the burden on the ecosystem to ensure enough food production. India's national nutrition strategy is critical if the country is to achieve the SDGs. High levels of maternal and child undernutrition have continued in India despite efforts from the government and legislators' policy, plan and programme commitments.

Five pillars to zero hunger challenge are to be followed in India are as:

1. 100% access to adequate food all year round
2. Zero loss or waste of food
3. 100% increase in smallholder productivity and income
4. All food systems are sustainable
5. Zero stunted children less than two years

Government of India and SDG-2

The Government of India has evolved several social safety nets to address these challenges:

1.India implements one of the largest food security measures in the world, the National Food Security Act (NFSA) 2013. The NFSA is being implemented across the country addressing the availability, accessibility and affordability dimensions of food security

2.The Integrated Child Development Services (ICDS) aims at addressing nutrition security of under-6 children, lactating mothers and pregnant women.

3.The National Programme of Mid-Day Meal in Schools aims to provide nutritious meals to children in primary schools.
4. The Antyodaya Anna Yojana, families with income of less than Rs. 250/- per capita per month are entitled for 35 kg. rice at subsidised rate.
5. The National Mission on Sustainable Agriculture, together with other missions under the National Action Plan on Climate Change, strives to implement adaptation strategies to mitigate the impact of climate change and sustain agricultural productivity. The adaptation measures focus on 10 key dimensions, i.e. improved crop seeds; livestock and fish cultures; water use efficiency; pest management; improved farm practices; nutrient management; agricultural insurance and credit support; markets; access to information; and livelihood diversification.
6. Food Security Act which aims to provide subsidized food grain to up to 75 percent of the rural population and 50 percent of urban households.
7. The Government of India has prioritised strengthening agriculture through measures in irrigation, crop insurance, and improved varieties.
8.The government has also taken critical steps to enhance food security, including through an India-wide targeted public distribution system, a National Nutrition Mission and the National Food Security Act.
9.The Rashtriya Krishi Vikas Yojana, the National Mission on Sustainable Agriculture and many national schemes on horticulture, agricultural technology and livestock are leading the way in improving India's agriculture.
10.The *Poshan Abhiyan* programme (National Nutrition Mission) under Prime Minister Narendra Modi has also been an effort in the right direction. The policy aims to set up an information and communications monitoring system in which the nutritional status of populations across the country could be tracked more efficiently. While the intent of the policy is sound, the implementation poses a challenge to India, which is already falling behind in the SDGs amidst the COVID-19 pandemic.
The farmer known as the first participant of the economy, has to be supported to achieve the highest production and productivity and must be ensured a larger share of profit along the value chain. Considerable progress is being made on several fronts through interesting initiatives.
1.Soil Health Cards (6.2 crore SHCs issued so far) with crop-wise nutrient management recommendations enable farmers to make judicious use of inputs and improve productivity.
2.Land under organic farming has registered more than 17-fold increase over the last decade or so. organic farming is specifically being promoted under the Paramparagat Krishi Vikas Yojana (PKVY) in a cluster mode in an area of over 2 lakh ha since 2014.
3.The Sub-Mission of Agroforestry is accelerating the 'Medh Par Ped' programme to quickly increase intermittent plantations in farmlands and block plantations in cultivable wastes.
4.Crop insurance has been revamped under the Pradhan Mantri Fasal Beema Yojana (PMFBY) and farmers are increasingly being covered under the scheme.
5.Access to new information, knowledge and skills is being revitalised improved through strengthening the Krishi Vigyan Kendra (KVK) network, and implementation of the Pandit Deendayal Unnat Krishi Shiksha Yojana and other educational initiatives.
6.Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), Pradhan Mantri Kisan Mandhan Yojana(KMDY) Scheme, Pradhan Mantri Kisan Samman Nidhi(PMKSN) are some schemes to strengthen farmers.

Conclusions:

If we want to see a world free of hunger by 2030, governments, citizens, civil society organizations and the private sector must collaborate to invest, innovate and create lasting solutions. If we promote sustainable agriculture with modern technologies and fair distribution systems, we can sustain the whole world's population and make sure that nobody will ever suffer from hunger again. To meet the goal, it requires accelerated and aligned actions from all stakeholders and countries, including tireless and more integrated support from the United Nations and the international community countries through multilateral agreements and means of implementation, so that countries can embark on a pro-poor and inclusive path to transformation in a people-centred way to free the world from poverty, inequalities, hunger, food insecurity and malnutrition in all its forms. we must also sort on the following things as..
1.Cost-effective supply of food to the end-users is as critical as its cost-effective production.
2.There is need to boost investment in agriculture innovation systems, including technology transfer and farm extension services,
2.There is need to boost investment in agricultural innovation technology.
3.water is the key issue for the future food security.

4. Invest in drinking water, sanitation, and other public services would help to improve food absorption.
5.Encourage corporate sector to use a part of its CSR fund to training, cost effective and sustainable farming system

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Studies on Quality of Higher Education in India

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Abstract

Education is a social process. Higher schooling has historically been supplied via way of means of authority's government via public institutions. However, the stress to expand, coupled with the restrictions of the state, has pressured many governments to undertake market-pleasant reforms to aid this developing sector. Education is a social process. The shape and content material of schooling of any age and society are merchandise of society-schooling dialectics. Education, specifically better schooling, because the device of the individual, societal and monetary transformation in India have become nicely diagnosed with inside the 2nd 1/2 of the 20th century. Since independence in 1947, there were large investments in better schooling, with the concomitant boom with inside the range of college students who choose better schooling. The transformation of Indian schooling device from the historic gurukula device to today's digital gaining knowledge of device is a mirrored image of the converting social context. The new social realities, specifically the interaction among democratization of schooling, emergence of know-how society and globalization, significantly have an effect on the instructional approaches in all societies (UNESCO, 2002).

Key Words: Self Reliant Individual, Education, higher education, development, Quality Assurance, transformation of society

Objectives:

The objective of education is the preparation of a self-reliant individual, capable of analytical and original thinking, a responsible member of his community and, in the present era, a global citizen.

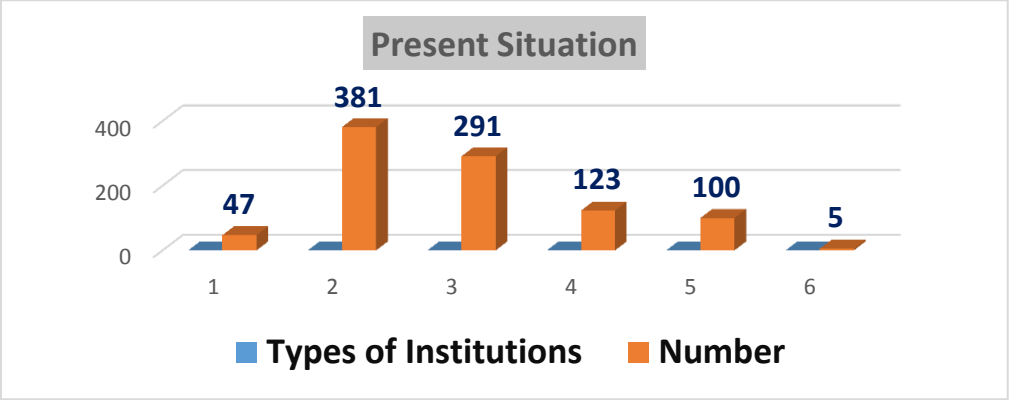
Introduction:

Higher Education is a totally crucial quarter for the boom and improvement of human useful resource which could take obligation for social, financial and medical improvement of the country. While, better training offers India an area with inside the global financial system as obtrusive from the supply of the professional manpower, and studies students running abroad, unemployment, illiteracy and relative poverty remain the most important deterrents to comprehend her capacity in human sources. The function of better training withinside the improvement of a nation, particularly withinside the twenty first century has been certainly described through worldwide companies and commissions and has been broadly mentioned at worldwide conferences. In a globalized financial system, the better training quarter has end up a concern because of the call for for professional human useful resource. Globalization has prompted an effect on better training thereby necessitating noticeably professional human useful resource to paintings on a worldwide platform. The Asian nations are making an investment in improving their better training machine with the goal of constructing global magnificence universities. Amongst these, China is specifically centered on upgrading its gift universities to end up the world over aggressive studies establishments' with inside the coming decade. Even smaller nations like Singapore, through partnering with a number of the arena magnificence universities, are projecting themselves as training hubs of Asia. India: A quickest developing financial system India is one of the quickest developing economies with inside the global with excessive highbrow capital, excessive home consumption-pushed through boom, robust entrepreneurial environment and a non-public quarter with large possibilities of boom, fundamental earnings and subsequently big capacity for boom in call for for merchandise and services, are the primary strengths of the financial system. The most important hassle for exploiting the strengths is loss of good enough capital and professional human sources required for the improvement of the center sectors like infrastructure, manufacturing, fitness care, telecommunication and training which shape the spine for a countries robust financial boom. Investment in training results in the introduction of human capital, that is an crucial enter into the socioeconomic improvement of a nation.

Present Situation: Higher Education in India:

Sr. No.	Types of Institutions	Number
1.	Central Universities	**47**
2.	State Universities	**381**
3.	Private Universities	**291**
4.	Deemed Universities	**123**
5.	Institution of national Importance Plus other Institutions	**100**
6.	Institution Established under State Legislative Act	**5**
Total		**947**

Total Number of Collages: 40976



Idea approximately the Quality Assurance in Higher schooling in India:

Like somewhere else with inside the world, the speedy enlargement of better schooling in India has been on the fee of its high-satisfactory. Quality varies broadly throughout establishments. Despite the overall deterioration of high-satisfactory, a few establishments like IITs, IIMs, some college departments and a few affiliated schools have maintained excessive requirements. The deterioration of high-satisfactory is maximum obtrusive withinside the country universities in widespread and on the undergraduate degree in affiliated schools in particular. Conventional postgraduate schooling is likewise dealing with disaster and plays extended "babysitting" characteristic due to loss of task possibilities for the graduates in India India's requirements of better schooling evaluate unfavourably with the common requirements in educationally superior nations. In 1980s, critical issues have been raised approximately persisted deterioration withinside the high-satisfactory of better schooling. It turned into observed that the integrated controls have been now no longer capable of make sure high-satisfactory. Various alternatives have been examined. In line with international practices, outside high-satisfactory warranty turned into conceived in India as a solution (Antony, S., 2002). In the instructional world, one observes many apprehensions approximately the ideas and procedures of outside high-satisfactory warranty. The teachers are commonly uncomfortable with the managerial views and the marketplace language of high-satisfactory. The pedagogues of schooling are sceptical approximately the measurability of the intrinsic excellence of tutorial operations. The outside high-satisfactory warranty mechanisms are perceived as a chance to the autonomy of tutorial establishments. Some even bear in mind high-satisfactory as simply hype and as part of the techniques of advanced nations to hegemonies the schooling structures of growing nations. Indeed, the talk on high-satisfactory on occasion resembles the tale of the outline of an elephant with the aid of using 5 blind men.

Perceptions of the function of the University and Higher Education Institution had additionally modified with the aid of using then. It is anticipated that instructional leaders be at once concerned in enhancement of high-satisfactory of better schooling and the transformation of society and its monetary improvement via partnership sports and college-enterprise linkages. In the instructional world, high-satisfactory Assessment has historically assumed seemingly contradictory objectives: high-satisfactory development and accountability. Universities typically emphasise high-satisfactory development, which has been a difficulty for better schooling establishments for the reason that center ages, whilst the authorities will pay unique interest to accountability, aiming at making sure the high-satisfactory of the Services supplied to society with the aid of using Higher Education Institutions. Quality has grow to be the defining detail of better schooling withinside the twenty first Century.

Expansion of personal better schooling:

Higher schooling has historically been furnished with the aid of using authorities government via public institutions. However, the strain to expand, coupled with the restrictions of the kingdom, has forced many governments to undertake market-pleasant reforms to help this growing sector. These reforms protected cost-healing and income-producing measures in public institutions and encouragement of the established order and enlargement of personal higher education institutions, which do now no longer rely upon kingdom funding. A similarly extension of the marketization method is the view that schooling may be handled as a tradable commodity**.**

Conclusion:

Education now no longer best makes a person an excellent gentleman, it additionally hands him to satisfy all of the conditions in existence. An knowledgeable guy can continually face problems in a higher manner than an uneducated person. He is aware of a way to face the problems in a relaxed and quiet

manner. Instead of having involved at the onslaught of problems, he's going to welcome them. This is the best hazard with inside the existence of a person to convey to the fore the latent powers which lie hidden in a person, until they're positioned to use.

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Impact of Covid-19 on Social Accounting with respect to CSR activities in India

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Abstract
The paper aims to clarify the implications of COVID-19 on corporate social responsibility (CSR). The research outlines an important role of CSR during the crisis and examines the pandemic impact on CSR practice of a company. The study proposes how to adapt to the new norm applying CSR and examines the role of CSR. The paper analyses the response to the pandemic crisis in terms of CSR and investigates the CSR approach of companies in India. The novelty of the research results highlights the significance of strategic CSR practice during the pandemic to overcome challenges countries and societies are facing around the world. It contributes to the field of CSR management in times of pandemic and suggests future studies in this area.

Keywords
Covid-19, Corporate Social Responsibility, CSR Management, Pandemic, India.

Introduction

In the knowledge society, the social expectations and demands toward companies grow in complexity, as the globalization process distorts the equilibrium among different social actors (Held and McGrew, 2000). Thus, aside from finding its role in a social system, the company must try to understand the direction it will take and contribute to its governance (Mintzberg, 1996). The company must understand and assume its role as an actor in a changing society, while society demands to be taken into account as an important variable for business decision making (Carroll, 1999). In that context, the company does not construct by itself the legitimacy of its practices, as other social actors and individuals (simultaneously citizens and consumers) give meaning to business actions, to its vision and its mission (Freeman, 1984). In this scenario, companies interact with society through practices, but it is society that gives companies' practices legitimacy, and companies define and express meaning and vision also through business practices.

Meaning of Social Accounting

Social accounting measures the environmental and social impact of an organization. This approach goes beyond the normal formulation of financial statements to also measure a firm's impact on stakeholders. Thus, social accounting can be used to determine the accountability of an organization. This approach is an especially useful tool for nonprofits and government entities, since their missions are more targeted at improving socially and environmentally relevant activities. The active measurement and use of social accounting allows managers to focus on those actions that are especially important to stakeholders, thereby improving the acceptance of the organization over the long term.

Definitions

Gray (2000): *"Preparation and publication of an account about an organization's social, environmental, employee, community, customers and other stakeholder interactions and activities and where, possible the consequences of those interactions and activities".*

Ralph (1973): *"It is the measurement and reporting, internal and external, of information concerning the impact of an entity and its activities on society.*

Objective

The objective of this paper is to know the impact of Covid-19 pandemic on Social Accounting with respect to CSR activities.

Methodology

Data is collected through secondary source from various reference books, research papers and internet.

Covid-19 Pandemic

Government of India declared the novel coronavirus outbreak in the country a "Notified Disaster" on 14 March 2020.

The Covid-19 pandemic impact is unprecedentedly devastating on the economy around the globe. The current crisis can be considered as a Black Swan type event, as it affects the operations of all companies, including CSRactivities. Imposed restrictions have paused travels, tourism, businesses, and entire industries, while forced community lockdowns, quarantines, home working, and online studying. As a result, some companies went out of business, and some moved online entirely. Furthermore, some enterprises faced a decline in demand, while others experienced a sudden increase in receiving purchase

orders. This unpredictable situation has caused unexpected challenges for companies. Consumer behaviors, experiences, and expectations have been altered dramatically as well. The society met the pandemic outbreak unprepared, and hence, it has had drastic economic impacts on all countries around the globe.

India was the first country in the world to impose a statutory obligation of CSR for corporations meeting certain criteria. As per Section 135 of the Companies Act, companies with a net worth of INR 5 Billion or more, or an annual turnover of INR 10 Billion or more, or net profit of INR 50 Million or more, to spend two per cent of their average net profits of three years on CSR. This provision makes India the only country in the world that makes both the spending and reporting of CSR obligations mandatory. Furthermore, the Companies Act and subsequent amendments have expanded and clarified activities for which the two per cent funding can be used. The Government of India has made it clear that CSR spending is not charity or mere donations without any strategic benefits. In fact, there has been a concerted effort to define broad areas (Schedule VII of the Companies Act 2013) under which the funding can be channelled, thereby visibly and positively impacting society. Moreover, there has been a conscious attempt to keep the CSR legislation aligned with India's commitment to the United Nations Sustainable Development Goals (UN-SDGs). Schedule VII of the Companies Act 2013 defines broad areas of intervention that are intended to be interpreted liberally with the eventual focus being on ensuring sustainable development of the country.

CSR Activities

HuWel

The Quantiplus COVID-19 detection kit received INR 50 lakhs through ACT Grants initiative. This product has RT-PCR capabilities and has CDSCO and ICMR clearance for manufacturing and commercialisation. They are working with Telegana State Govt. for supplying testing kits and several other States as well

Nocca Robotics

An invasive mechanical ventilator capable of operating in a pressurecontrolled mode- received INR25 Lakhs via ACT Grants. Bharat Dynamics Ltd, a leading defence PSU under the Ministry of Defence, Govt. of India, joined hands with Nocca for the largescale production of the device

Mylab

Created an RT-PCR kit that is manufactured domestically, has a local supply chain and is approved by ICMR. This kit is cheaper, more accurate and faster than its international peers. Deployed at ICMR approved labs and Hospitals across the nation. Grant provided by ACT Initiative: INR 1 CR.

Cargo FL – APEX

Cargo FL's APEX app helps businesses and Organizations get Covid-19 Compliant. They can push their Covid-19 SOP's, Guidelines, Circulars to employees and gather metrics as well as get employees to report symptoms, food ration shortages, safety issues, etc all in real-time. It is deployed in 9 companies in Pune with 10K+ employees including Pune Road Transport Corporation. Received funding from Hindustan Petroleum.

BIRAC and DBT announced COVID-19 Research Consortium with a focus on diagnostics, vaccines, novel therapeutics, repurposing of drugs, or any other intervention for the control of COVID-19. Our CSR team in collaboration with BIRAC set up a CSR funding channel to fund innovations that are at the forefront of the battle against COVID-19 and are ready for deployment.

Conclusion

It is clear that the CSR obligation is a game changer for ensuring that the gains made by corporations in India can be transferred back to society in a meaningful manner. The government's efforts to keep the activities permitted under the obligation broad based is commendable. A welcome step in this regard is the proposal for a 'Social Stock Exchange' by the Securities & Exchange Board of India. Finally, there is an urgent need to ensure that CSR-spending has a multiplier effect on social, economic and environmental impact on the ground. This will have to be achieved by measuring outcomes of CSR spending over time, as well as engaging in activities with larger impact potential. Funding research and technology incubators could be one such area where the impact could be highly diversified.

In conclusion, the COVID-19 pandemic has brought Corporate Social Responsibility to the forefront. Corporates, both large and small, headquartered in India or abroad, have risen to the challenge and augmented the government's efforts by re-orienting their CSR strategies. It is hoped that the same zeal and mission-mode orientation carries over to activities beyond the pandemic. Invest India, on its part, will endeavour to facilitate corporates looking for impactful CSR opportunities under the larger effort to enhance the ease of doing business in India by strengthening initiatives such as the CSR repository on the IIG, and facilitating knowledge transfer between different stakeholders.

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Indian Ways of Interaction Causing Gender Inequality as Reflected in the Novels of Anita Desai and Geeta Hariharan

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Abstract:
The society at large is patriarchal and marriage is a power –relationship between husband and wife. In the traditional set up after marriage a woman loses her individuality but in the present day world woman is not willing to lose her freedom. She is educated, career oriented, enterprising and thus is emotionally and economically independent. Anita Desai and Githa Hariharan proved to be writers of this change. The study brings to light how they vocalize their perception of change in women characters, in their novels through gender interaction. They focus on the identity of the individual, especially Indian woman. They highlight the advantages trans-effecting an identity to solve the conflicts arising out of gender interaction. This article explores in detail the roots of man-woman inequality in India and the socio-cultural reasons for them. It also pinpoints the advantage of having a new self-concept or new woman or modern woman. The evolution of new self concept of a new woman emerging out of a series of gender interactions arising in the select novels of Anita Desai and Githa Hariharan is traced, placing them in the frame work of sociology, psychology, ideology, history, feminism and Freudianism.

Key Words: *Gender, Inequality, Man-woman, Socio-cultural*

The history shows that male writers in their works depicted and have mostly reduced women as inferior and weak. The present paper probes all the areas to prove that the way man and woman interact is radically different from the traditional concept of gender interaction. It attempts to assume the impact of a new self-concept arising out of a series of gender relations with its long –lasting influence on the psyche of Indian women. According to **Pratima:**

"The synthesis of eastern and western literacy modes has given a comprehensive perspective to the Indo-English writers, and they have successfully analyzed the psychological, emotional and spiritual crisis experienced by the Indian Intellectuals as well as men and women representing the different layers of Indian Society" (180).

Against this backdrop, the study explores Gender interaction in select works of Anita Desai's *Cry the Peacock* and *Where Shall We Go This Summer* and Githa Hariharan's *Thousand Faces of Night* and *When Dreams Travel* Differences in interaction and difference of opinions touch every man and woman all over the world in all walks of life. This study is important because the problem of misunderstanding between man and woman is a common problem but not much of research has been conducted in this area. All human beings are involved in relationships since it takes major part of life especially that interaction is inevitable and people interact with each other because they are part of a society where it is impossible to survive without communication. Thus it is important to first be aware of the ways that men and women interact with each other, and then try to understand them in order to avoid misunderstandings and conflicts. The purpose of the study was to reveal the causes of the problem of misunderstanding between genders which may help people understand and knows themselves better as well as the consequences of the gap that exists between them. This may contribute to establishing a better understanding and acceptance of the differences of the others. Today such a concept has come to

be called as 'gender sensitization'. Anita Desai and Githa Hariharan have emerged as writers possessing deep insights into the female psyche. Focusing on the marital relations and gender interaction they seek to expose the tradition by which a woman is trained to play her subservient role in the family. The novels of Anita Desai and Githa Hariharan reveal the man made patriarchal traditions and the uneasiness of the Indian woman in being a part of them. The study includes conflict of ideas, the struggle, and controversies that men and women experience and encounter in their life.

The women characters in the novels are victims of male domination. Female docility has been one of the prevalent issues ever since the human evolution began the idea and practice of gender is given shape and meaning by the social structures of a society. An analysis of the women characters of Anita Desai and Githa Hariharan reveal the presence of a definite quest for a true self identity, their woman-centered novels and short stories give us a psychological insight into the working of a woman's mind; especially one belonging to a typically Indian background. The years of societal and cultural conditioning teaches the Indian woman to be self-effacing, submissive and subordinate to man, suffering of a patriarchal society in silence. Githa Hariharan, by making her heroines undergo stages of self-introspection and self-reflection, makes them evolve themselves into more liberated individuals than what their biological nature or culture have sanctioned.

These women strive heroically to overcome their cultural conditioning and the barriers created by society in matters of tradition and manners. They finally emerge as free, autonomous individuals, no longer content to be led, but desirous of taking a lead. In the Indian context, an ideal of self-hood in a woman requires to take into consideration the institution of marriage, wifehood and motherhood. Formerly these were the only identities women had. Even woman who wanted an identity of their own, were required to fulfill these three stages in life. In the present day also, women seek an identity of their own mostly within the family circle, without disturbing the status-quo of the Indian family set up. This working-out of their individuality is seen in the female protagonists of Anita Desai and Githa Hariharan.

Women are seen to function as individuals within the familial background. Anita Desai is one of the prominent contemporary, woman writers in India, writing in English. Her novels raise important issues including: a woman's quest for self; an investigation into the female psyche; an understanding of the mysteries of life; a woman's encounter with the difficulties in the contemporary Indian society. The women in her novels are interrogating and defining their identities as wives, mothers, sisters, daughters and above all as human beings.

Hariharan's women characters have strength of their own, and in spite of challenges and hostilities, remain uncrushed. Most of her novels present a typical, middle-class housewife's life. Her main concern is the urge to find oneself to create space for oneself. Her imaginative flashes and the role played by memory in her novels. She presents a conceivable story of authentic characters and not shadowy abstractions. She believes in presenting life as it is and not as it should be. For her portrayal of the predicament of middle-class Indian women, their inner conflict and quest for identity, issues pertaining to marriage and sex, and their exploration and disillusionment. Hariharan does not believe in offering ready-made solutions.

R.S.Pathak is of the view that "The Indian novel in English sustains challenges and enigmas. But it has endured the test of the time and proves its excellence"(6).

The present study is a modest effort to explore how women character's search for identity in their relationship with men in select novels of Anita Desai and Githa Hariharan.

Anita Desai is indisputably one of the most powerful contemporary Indian novelists in English. Desai, (1937-), of a German mother and Bengali father, is a north Indian novelist remarkable for sensibility of inner world. She represents the welcome "creative release of the feminine sensibility" which began to emerge after the Second World War. She married Ashvin Desai, they

have four children. She started writing short stories regularly before her marriage rather than the queer world of action. As a novelist Desai made her debut in 1963 with Cry The Peacock. Desai is a writer who elaborates a woman's feelings, emotions alienation, loneliness, aloofness, and quest for self identity very clearly and beautifully. In addition to a large number of essays, articles, reviews, short stories, Anita Desai has about a dozen popular novels to her credit. Besides being a professor at various educational centers indifferent parts of the world, she is the recipient of Sahitya Akademi Award (1978), Guardian Award (1984), Booker McConnel Prize (1980), Padmashri (1990) and Neil Gunn Award (1994) etc. She considers Clear Light Of Day (1980) her most autobiographical work as it is set during her coming of age and also in the same neighborhood in which she grew up. In 1984 she published In Custody - about an Urdu poet in his declining days - which was short listed for the Booker Prize. In 1993 she became a creative writing teacher at Massachusetts Institute of Technology. Her latest novel published in 2004, The Zigzag Way, is set in 20th-century Mexico. Desai has taught at Mount Holyoke College and Smith College. She is a Fellow of the Royal Society of Literature, the American Academy of Arts and Letters, and of Girton College, Cambridge University.

Desai is a most significant novelist, as a young woman, when she was very seriously writing, it was British writers like Jane Austen, Virginia Woolf, D.H. Lawrence, E.M. Forster who influenced her and were her role models. Desai is a part of a new literary tradition of Indian writing in English, which dates back only to the 1930's or 1940's. Her new style of writing is different from many Indian writers, as it is less conservative than Indian literature has been in the past. She portrays the cultural and social changes that India has undergone as she focuses on the incredible power of family and society, relationships and the alienation between family members, paying close attention to the ordeals of women, suppressed by the Indian society. The

isolation experienced by women in a male dominated society is a significant modern trend, in the Indian society women are not allowed to play any active role in decision-making. Anita Desai tries to focus on the predicament of women in the society the inner crisis in the lives of the characters. She writes about helplessness, agony, struggle and surrender. It is her style which gives dress to the inner psyche of her characters. It is the use of images, symbols, metaphors and the narrative devices which provide a good deal

of peep into the disturbed psychology of characters. Desai is one of those significant fiction writers who refuse to accept traditional and idealistic approach in her work.

She writes about helplessness, agony, struggle and surrender and inner psyche of her characters. Desai is widely acclaimed for her literary works and has a worldwide audience who make her a literary celebrity of great significance. The interior landscape peopled by woman characters is set against the background of man's domination of social and domestic life with accumulated authoritarianism as its foundation are some of the themes she deals with.

Githa Hariharan was born in 1954 in Coimbatore, South India, and she grew up in Bombay and Manila. She was educated in these two cities and in the United States. She worked as a staff writer in WNET-Channel in New York, and from 1979, she worked in Bombay, Madras and New Delhi as an editor, first in a publishing house, then as a freelancer. Her first novel, The Thousand Faces of Night (1992) won the Commonwealth Writers' Prize in 1993. Her other novels include The Ghosts of Vasu Master (1994), When Dreams Travel (1999), In Times of Siege (2003), and Fugitive Histories (2009). A collection of highly acclaimed short stories, The Art of Dying, was published in 1993, and a book of stories for children, The Winning Team, in 2004.

Githa Hariharan has also edited a volume of stories in English translation from four major South Indian languages, A Southern Harvest (1993); and co-edited a collection of stories for children, Sorry, Best Friend! (1997). Hariharan's fiction has been translated into a number of languages including French, Italian, Spanish, German, Dutch, Greek, Urdu and Vietnamese; her essays and fiction have also been included in anthologies such as Salman Rushdie's Mirrorwork: 50 Years of Indian Writing 1947-1997.

Hariharan wrote, for several years, a regular column for the major Indian newspaper The Telegraph and has been a Visiting Professor or Writer-in- Residence in several universities, including Dartmouth College and George Washington University in the United States, the University of Canterbury at Kent in the UK, and Jamia Millia Islamia in India, where she was Scholar-in- Residence from 2010-2012. Hariharan belongs to the second generation of postcolonial women writers like Shashi Deshpande, Arundhati Roy, Manju Kapur, Mridula Garg, Anita Nair and Shobha De who together created the image of the suffering but stoic woman eventually breaking traditional boundaries has had a significant impact. These writers have invigorated the English language to suit representations and narration of what they felt about their own women and their lives in postmodern and postcolonial India. Apart from sharing the common theme of exploring female subjectivity in order to establish an identity that is not allowed by a patriarchal society along with her

fellow Indian women writers, Githa Hariharan has also created a separate identity for herself by attempting to write about non-feminist subjects like the question of writers' freedom and the true meaning of education and teaching in the Indian milieu.

Githa Hariharan started her career as a writer by attempting to write on a subject that was close to the heart to many women writers, that is, the female subjectivity and portrays the changing image of woman in the modern and the post modern era through her not so very conventional women characters.

Women in Hariharan's novels pass through the three stages of tradition, transition and modernity. Women in her novels seem to be the personifications of 'new' women who have been trying to throw off the burden of inhibitions they have carried for ages. Hariharan's female characters' resolutions conform to a re-definition of the lives of women, fulfilling the implicit political aim of the author, as she is not merely concerned in documenting reality, but she has used her novels as a medium for the exploration of the new reality and a subtle projection of values, by posing questions, by suggesting re-assessment and redefinition.

Antonia Navarro-Tejero, a Spanish writer and academician, while comparing Arundhati Roy and Githa Hariharan says "Roy and Hariharan are engaged – in different degrees – with social reforms, and this is what makes them writer-activists, as they are sensitive to gender and caste experiences. They are not so prescriptive, but offer alternatives instead of victimizing the oppressed" (38).

A woman is never regarded as an autonomous being since she has always been assigned a subordinate and relative position. Man can think of himself without women. She cannot think of herself without man. And she is simply what man decrees-she appears essentially to the male as a sexual being.

She is defined and differentiated with reference to man and not he with reference to her, she is the incidental, the in essential as opposed to the essential. Simone de Beauvoir finds great substance in what an eminent feminist commented about marriage:

"We open factories, offices, the facilities for women but we continue to hold that marriage is for her a most honorable career, freeing her from the need of any other participation in the collective life"(67).

Women have not learnt to see themselves because the mirrors they look into do not reflect them .They reflect the male idea of a women – whether married or single. The mirrors reflect the men in their lives –

the fathers and brothers who are out there in the open, while women are confined in long skirts, or long sleeves, or behind purdah or the chilman. In their interface with men, the enigmatic and chaotic fabric of Indian women's life is seen. The texture of the fleeting impulses, frustrations, disappointments, distorted vision of life of Indian Women and their emotional and transient feelings result in the fragmentation of the personality of a woman. If the interaction between man and woman is not congenial and positive in nature, it damages the relationship and distorts their peace of mind. Nilufer E. Bharucha states:

"Female space is biologically recessed. The enclosure of the womb affords
protection to the growing fetus and is therefore a positive factor. An andocentric world, however, has extended the analogy of biological female inwardness to create a feminine reductiveness. This is turned a biological virtue into a societal and cultural handicap. The male world, after having imposed this limitation onto women, has celebrated it in song and dance. Literary discourse has been utilized to bear witness to the circumscription of women's worlds. The outer limits of women's lives have also been delineated by religious scriptures. While literature and poetry have romanticized these worlds, religious texts have provided it moral sanction and dogmatic validation. Women have always been the ultimate territories and countries on whom men have mapped their rights of possession."(93).

There are many such men and women who indulge in infidelity and wreck their own marriages. When partners become unfaithful to one another, divorce becomes the only solution. It is recommended that spouses manage their relationship with mutual understanding, fairness, and a tiny dose of conciseness, concern, commitment, compromise and compatibility. Satisfactory intimate relationship plays an important role in a successful marriage. Physical compatibility is essential to build a strong emotional bond. Sexual dissatisfaction or reproductive incapability often causes frustration leading to divorce. Divorce is an emotional and a painful scar that can be avoided with some patience and understanding. These days if people ever see a seed of doubt sprouting in their marital life, they consider it worthy visiting a marriage counselor. Theorists have identified locations or settings where gender relations might be best studied. For instance, gender as relational experience occurs on personal and intimate levels as well as on cultural and institutional levels. This suggests that gender relations and health studies can and should occur in diverse locations and contexts to more fully apprehend the multiplicity and patterns within productions of gender relations and their influence on health. Gender relations are an exciting and emergent area in need of more attention from health researchers. Health-related behaviors do not operate in isolation and need to be understood in the context of interactions within and between men and women across personal, interpersonal and institutional levels. A better understanding of gender relations and health in research and policy will have direct implication for health interventions and guide decisions about whether group, dyadic or single point programs are likely to be effective.

As the French feminist Julia Kristeva says, Women are one half of the sky. The changing of the existing power relations between the two sexes would amount to a social revolution and this means that the present world order would inevitably be transformed. The real purpose of a genuine feminist should be not so much the inequality between men and women but a healthy alteration of the present rigid definition of gender discrimination. In this context it is apt to quote Chetan Bhagat, the author of bestselling book Three mistakes of my Life,"
is in praise of women he strongly advocates that "when we don't allow our women to come up, or create stress for them, we are not allowing half of India to come up"(16).

Talented, hardworking people are much in demand, mastering the skills, networking with people and figure out ways to be economically independent one ways to build relationships. Strength or positive points would always produce positive emotions that are invariably authentic, engaging or harnessing the strength produce positive emotions like harmony, happiness, satisfaction, joy, sense of pride and fulfillment. A person could be having an array of strengths. If they are not in tune with the goal or do not fit the job or profession one is in, then all the strengths are a waste or just futile. It is always advisable to identify one's core strengths and harness them in a right way to produce results and be successful in life. One of the important strength is harmony in man woman relationship.

In the western countries, the women's issue is mostly one of identity, job equality and sexual role. In India for the majority, it is the question of stark survival. Virginia Woolf remarks:

"Life is not a series of gig lamps symmetrically arranged: luminous halo, a semi transport envelope surrounding us from the beginning of consciousness to the end". Since the establishment of the society women is branded as the weaker sex, denied full justice, social security ,economic liberation and political awareness"(58).

Sheryl Sandberg the Chief Operating Officer of Face book and the author of the bestselling book Lean In Women, Work and the Will to lead says "women should lean in to their careers and take credit for the

work they do, be ambitious and unafraid to compete, to challenge the status quo and work for a better world with a distinct outlook." (36).

Sandberg simply raises the flag, announcing that it is time for women to be intentional and confident about being successful .On the converse, it challenges men to share the load with their partners in a manner that will help women lead as well and give everyone a better quality of life. This is in tune with what D.H. Lawrence in "Morality and the Novel" points out,

"The great relationship for humanity will always be the relation between man and woman. The relation between man and man, woman and woman, parent and child will always be subsidiary" (l30).

Fiction by women writers constitutes a major segment of a contemporary writing in English. It provides telescopic insights, a wealth of understanding, a reservoir of meaning and a basis for intellectual discussion. Through the eyes of the women writers we can seek to realize the potential of human achievement. An appreciation of the women's writings is essential while appraising the Indian English literature.

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Caste, Gender and Protest: a study of "The Grip of Change"

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Introduction:

The texts chosen for the research work that is, 'Caste gender and Protest have been a part of Genre called Dalit Literature "The Grip of Change" produced by P. Shivakami. The present research paper is an attempt to study the pre dominant elements of Indian Society; Caste, Gender and Protest. History bears witness to it. That there is a specific section of Indian society, called untouchables in the past and dalits today that has been consistently subjected to the most extreme exploitation on the Communal, political, economic and cultural lines. It is only after the most serious endeavors undertaken by the egalitarian thinkers and philosophers like Mahatma Phule, Rajershri Shau and Dr. B. R. Ambedkar, that the marginalized and suppressed voices from the community of Dalit's, started coming to assertion these voices strongly wanted to annihilate caste and gender based exploitation. Initially, Dalit literature was left 'uncared for' but in the due of time Dalit literature established itself so strongly that the international concerns took special note of it. Which ultimately made the Indian mainstream appreciate the value of dalit literature in the initial stages of development of Dalit literature, Dalit writing was mainly focused on the suffering and exploitation of men from Dalit classes. This kept the suffering of dalit women behind the curtain to a certain extent. However, soon even dalitt women created a row of their own to voice their suffering and exploitation. Therefore, the researcher thought of creating a space of deliberation on the first-hand experience of suffering and exploitation of dalit women by way of the present research work. The overall scheme of the research work is given below:

The objectives:

1. To study the history of dalit literature,
2. To study the sufferings of dalit women presented by P.Sivakami.
3. To study social injustice infected upon dalits as being present in the works of P Sivakami
4. To study the elements of protests in P. Sivakami

Hypothesis

1.There is excessive suffering in dalit literature,
2. Dalits are exploited on the caste, economic, political and social grounds.
3. The social injustice is inflected upon Dalits.
4. P.Sivakami has presented the elements of suffering, marginalization and exploitation of Dalits.
5. P. Sivakami has focused on the issues of Dalit women.

Research Methodology :- As the research work deals with literature, the following methods would be implemented, to complete the work :-1. Primary sources
2.Survey of literature a. Research Journals. b. Research papers, c. intervews, d. Research articles

Scope and limitation:-

The given research work deals with only to author. As far as its scone is concerned.it would come out a good social document as it is to study the social conditions of Indian society.

Chapter scheme:-

The following is the scheme of chapter of the Thesis.

THE GRIP OF CHANGE :-The term Dalit literature means crushed or rounded. It describes the conditions for centuries of a large group of socially oppressed people in India. Dalits are socially oppressed, culturally neglected and economically exploited. Although dalit moments started in mid nineteenth century for the upliftment of marginalized communities but issues of dalit women are still negelected by mainstream feminist literary movement. Dalit women has to face rot only the caste discrimination but gender inequalities and economic disparities too.

Dalit women is thrice victimized by caste Hindu men, caste Hindu women and Dalit men simultaneously. The oppression of a Dalit women is at 3 levels gender caste class with reference to 'p. Sivakami's novel "The Grip Of Change" (2006).

Palanimuthu Sivakami, a leading Indian novelist_cum politician is credited for being the first Dallit women I.A.S. officer in Tamilnadu is also the first dalit women to write a full length semi-autobiographical Tamil novel 'Pazhaiyana Kazhithalum' (1989) translated into English by Sivakami herself under the title 'The Grip Of Change with which she outshined the literary scenario and added a new magnum opus to dalit literature and dalit feminist literary tradition in Tamil.in 'The Grip of change', Sivakami applies a self-critical and deconstructive technique and exposes the cliplorable realities of dalit patriarchy through the novel. She has opposed the mainstream - sexiest ideology. The protagonist of the novel is 'Thangam', a poor dalit widow who suffers not only for being a dalit but for being a woman and

other too ironically she is victimized even by her own dalit community, also she faces triple marginalization, economic oppression, gender subordination and caste discrimination clutched in the jaws of patriarchy, she is abused, raped and beaten violently. As Vaishali Shivkumar suggest "A very famous statement: 'women are Dalit, from beginning to end', seems really a marked truth at this stage just because of this struggle of the dalit women against the society against their own outset, caste and against the traditions of their men fellow. The patriarchy crushes down the originality. Warmth, delicacy tenderness and ever beauty in them". (3)

The Grip of Change is narrated through the eyes of a girl to comment on her community and narrates the significant incidents that happen around her, simultaneously they arising Dalitism in order to empower its own identity, and problematize it in order to transcend the inequalities within the dalit communities.

'In The Grip of Change' most of the incidents occur on the body of Thangam. Her body becomes the site on which power relations are played out and for all kinds of contestations, symbolically making the body of a dalit women a territory on which any one treat as against that of an upper-caste women whose body is inviolable'

The novel 'The Grip Of Change' dosen't only voice the plight of an exploited dalit women, but also records the waves of change in the dalit consciousness, thus providing a kind of cure for the ailments of society. Through the character 'Gowri', the ideal of education the recovery of dalit's condition is established. KathaMuthu allows his daughter to study and it is only because of this awareness provided by education, that she is able to realize the exploitation of women in a patriarchal set up. Being educated she protests against her early marriage: 'the sufferings that my mother understands in her marriage, don't want to be tortured like her by some men (124) She defies the decision of her father about her marriage by working hard for examination, and after getting success, she chooses to study further in the city college Through Gowri, Sivakami, advocates the need for an organized educated dalit youth that stand united stand by ideological commitment and sincerity of action empowerment of dalits.

Though the novel is fictitious but still the characters and incidents are realistic enough to articulate the reality of modern society. Thus from beginning to End, this novel serves as an ice-breaker and draws attention to violent realities, along with a message that a democratic approach is essential to eradicate and discriminatory ideologies from the society.

Conclusion

The Third chapter would summarize the arguments introduced in the preceding chapter of the paper. Also, it would confirm that the objectives, set further research work is met and the hypothesis proved. The conclusion drawn at the end of the paper would be the main focus of the chapter.

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धानोरा या गावातील कुटूंब नियोजनाचा :- भोगौलिक अभ्यास

श्री.बिचकुंदे शशिकांत संग्राम

प्रस्तावना :-

भारतास कुटुंबनियोजनाची विशेष गरज आहे. सध्या भारताची लोकसंख्या प्रतिवर्षी २.५% इतक्या झपाट्याने वाढत आहे. जगाच्या एकूण क्षेत्रफळाच्या २.४% क्षेत्रफळ असलेल्या भारतास आज एकूण जागतिक लोकसंख्येच्या १६.८% लोकांस पोसावे लागत आहे.

राष्ट्राचा आर्थिक विकास झपाट्याने व्हावा, या उद्देशाने कुटुंबातील संततीच्या संख्येवर जाणूनबुजून घालण्यात येणारी मर्यादा. लोकसंख्यावाढीमुळे उद्‌भवणाऱ्या आर्थिक अडचणी टाळता याव्यात, म्हणून अशी मर्यादा घालण्याची आवश्यकता भासते. लोकसंख्येची वाढ पर्याप्त मर्यादेपलीकडे म्हणजेच अनियंत्रितपणे होत गेल्यास, ती राष्ट्राच्या आर्थिक विकासाच्या मार्गात अनेक अडथळे आणते आणि त्यामुळे जीवनमान सुधारणे कठीण होते; राष्ट्रीय उत्पन्नाची दरडोई वाढ फारच मंदगतीने होते;

अन्नधान्याचा पुरवठा अपुरा पडून त्याची मोठ्या प्रमाणावर आयात करावी लागते; लोकसंख्येतील अनुत्पादक वयोगटातील व्यक्तींचे व बेकारीचे प्रमाण वाढत जाते व बचतीमध्ये वाढ करून आर्थिक विकासास आवश्यक तेवढी भांडवल-संचिती करणेही जड जाते. म्हणूनच राष्ट्राचा आर्थिक विकास त्वरित होऊन सरासरी कौटुंबिक जीवनमान सुधारावे, ह्यासाठी लोकसंख्यावाढीवर कुटुंबनियोजनाद्वारे नियंत्रण घालण्याची गरज भासते. कुटुंबातील संततीची संख्या नियंत्रित करण्याबरोबरच दोन मुलांमध्ये योग्य अंतर ठेवणे, हेही कुटुंबनियोजनाचे एक महत्त्वाचे उद्दिष्ट आहे.

संततिनियमनास प्रथमतः बऱ्याच राष्ट्रांमध्ये शासकीय विरोध होता व त्याचा प्रचार करण्याविरुद्ध कायदेही संमत करण्यात आले होते. हळूहळू हा शासकीय विरोध कमी होत गेला. प्रचारासाठी शासनांची संमती मिळत गेली व नंतर प्रचारामध्ये शासन स्वतः सहभागी होत गेले. स्वीडनच्या शासनानेच संततिनियमनाच्या प्रसारास प्रथम हातभार लावला व नगरपालिकांच्या संततिनियमन केंद्रांना आर्थिक मदत देऊ केली. इतर राष्ट्रांतील शासनांनीही संततिनियमनाच्या खाजगी संस्थांनी केलेल्या प्रयत्नास सहकार्य दिले. १९५० पासून भारतातही संततिनियमनाच्या प्रयत्नांना सरकारने मदत केली. १९४८ पासून जपानमध्ये गर्भपात कायदेशीर मानला जाऊ लागला व हळूहळू गर्भपाताचे प्रमाण कमी होत जाऊन अन्य मार्गां चा वापर अधिक प्रमाणावर होऊ लागला.

संततिनियमनाच्या विविध साधनांचा वापर फार प्राचीन काळापासून होत आला आहे. ख्रिस्तपूर्व १८५० ते १५५० या काळातील काही ईजिप्शियन लेखांतून व प्राचीन हिब्रू वाङ्मयातून गर्भधारणा टाळण्याच्या अनेक उपायांचा उल्लेख आढळतो. ख्रिस्तपूर्व चौथ्या शतकात ॲरिस्टॉटल याने गर्भावरोधाच्या उपायांचे वर्णन केलेले आहे. त्याचप्रमाणे इ. स. दुसऱ्या शतकात सोरेनस या प्रसूतिशास्त्रवेत्त्याने संततिनियमनाच्या पद्धतीचे सविस्तर विवेचन करून गर्भपाताऐवजी गर्भधारणा टाळणे हा अधिक श्रेयस्कर मार्ग होय, यावर भर दिला. ग्रीक व रोमन काळांत स्त्रियांचे आरोग्य सुरक्षित राखण्याच्या दृष्टीने गर्भावरोधास विशेष महत्त्व दिले जाई; परंतु गर्भसंभव टाळण्याच्या पद्धतींचा अवलंब फारच थोड्या नागरिकांना करता येत असे. गर्भावरोधाच्या तंत्राचा सार्वजनिक प्रसार मात्र एकोणिसाव्या शतकापर्यंत झाला नव्हता.

कुटूंब नियोजन कार्यक्रम :-

भारतात १९५२ साली म्हणजेच पहिल्या पंच'वार्षिक योजनेत कुटूंब नियोजन कार्यक्रमाची सुरवात झाली .तत्कालीन मुबई प्रातांत सण १९५७ पासून या कार्यक्रमाची सुरवात झाली .सण १९७१ पासून आजपर्यंत या कार्यक्रमात अनेक घटकाची भर पडली .सण १९७८ साली कुटूंब नियोजन कार्क्रमाचे नाव "कुटूब कल्याण कार्यक्रम " असे करण्यात आले

.तर सण १९९७ सालापासून हा कार्यक्रम "'प्रजनन आणि बालसंगोपन "या नावाने ओळखला जाऊ लागला ."हम दो ,हमारे दो "हे या कार्यक्रमाचे हिंदी भाषेतील घोषवाक्य आहे .

संशोधनाची उद्दिष्ट्ये :-

१) लोकसंख्या विषयक धोरणाचा नेसर्गिक घटकावरील होणाऱ्या परिणामाचा अभ्यास करणे .

२) अभ्यास क्षेत्रातील कुटूंब नियोजन नियोजनाचा अभ्यास करणे .

३) कुटूंब नियोजनाचा लातूर जिल्ह्यातील सामाजिक व आर्थिक विकासावरील परिणामाचा अभ्यास करणे.

माहिती स्त्रोत :-

प्रस्तुत संशोधन कार्यासाठी माहिती मिळवण्यासाठी प्राथमिक व दुय्यम स्वरूपातील माहीति स्त्रोताच्या उपयोग केला जाणार आहे .प्राथमिक माहिती मिळविण्यासाठी सर्वेक्षण मुलाखत व प्राश्नावली. चा उपयोग करण्यात आला आहे .लातूर जिल्ह्यातील मुख्य चिकित्सा अधिकारी,उप मुख्य चिकित्सा अधिकारी ,मेडिकल ऑफिसर अशा कुटूंब नियोजन संदर्भातील अधिकारी याच्या मुलाखती घेऊन प्राथमिक स्वरूपाची माहिती घेण्यात आली.

कुटूंब नियोजन संरचना :-

कुटूंब नियोजन कार्यक्रमाची यशस्वी अमलबजावणी करण्यासाठी भारतात प्रत्येक राज्यात, "कुटूंब. नियोजन ब्युरो " ची स्थापना करण्यात आली आहे. तसेच शहरी भागात "स्वस्थ नियोजन केंद्र "ची स्थापना केली .तर ग्रामीण भागात "प्राथमिक आरोग्य केंद्राची " स्थापना केली. वरील प्रमाणे जिल्ह्यात कुटूंब नियोजन कार्यक्रम संरचना प्रमाणे कुटूंब नियोजन कार्यक्रमाची उद्दिष्टे ,ध्येय ,उपलब्धी यशस्वी पणे राबविण्याचा प्रयत्न केला जातो.

विषय विवेचन :- प्रस्तुत विषय विवेचनात कुटूंब नियोजनाचा अभ्यास करण्यात आला आहे. त्यामध्ये लातूर जिल्ह्यातील कुटूंब नियोजनाचे सर्वेक्षण करताना धानोरा या गावातील कुटूंबाचे सर्वेक्षण करण्यात आले.त्यानुसार माहितीचे विश्लेषण.

3) धानोरा (Dhanora)

प्राकृतिक स्वरूप :- लातूर जिल्ह्यातील अहमदपूर तालुक्यातील धानोरा हे गाव आहे. हा भाग ५०० मी. उंचीपेक्षा कमी उंची असणाऱ्या प्रदेशात येतो.. धानोरा या गावाचे स्थान १८.३३'८९.५" उत्तर अक्षांश ते ७६.६२'५५.३" पूर्व रेखांश आहे.या गावाचे क्षेत्र ५१२ चो.हेक्टर.असून घराची संख्या २३१ इतकी आहे.या गावाची कृषी प्रधान अर्थ व्यवस्था आहे. या गावात धानोरा सिचन प्रकल्पामुळे संपूर्ण जमीन हि ओलिताखाली आली आहे .येथील जमीन हि सुपीक व काली कसदार आहे तर डोगर माथ्यावरील लाल मृदा आहे.मान्सून पासून पाऊस मिळतो खरीप व रब्बी पिकाची येथे पेरणी करून उत्पन्न मिळवले जाते.या गावात बागायती शेती केली जाते.हवामान ऋतूनुसार शुष्क व कोरडे असते.

सांस्कृतिक स्वरूप :- २०११ च्या जनगणनेनुसार येथील लोकसंख्या ११७५ (२०१८-१९ मध्ये लोकसंख्या १२३५ असून यात पुरुष ७३८ तर स्त्रियांची संख्या ४९७ इतकी आहे.) (Censas MIDDS Code.no. :- 560402).या मध्ये ७६ % लोक हे हिंदू धर्माचे आहेत तर २४ % लोक हे इतर धर्माचे आहेत.आज म्हणजे २०१८-२०१९ सर्वेक्षणानुसार इतर धर्माची लोकसंख्या हि जवळपास २७ % पर्यंत झाली आहे . या गावाची साक्षरता सरासरी ८० % दिसून येते. यात पुरुषाची साक्षरता जवळपास ९० % इतकी आहे.स्त्रियांची साक्षरता प्रमाण कमी दिसून येते.

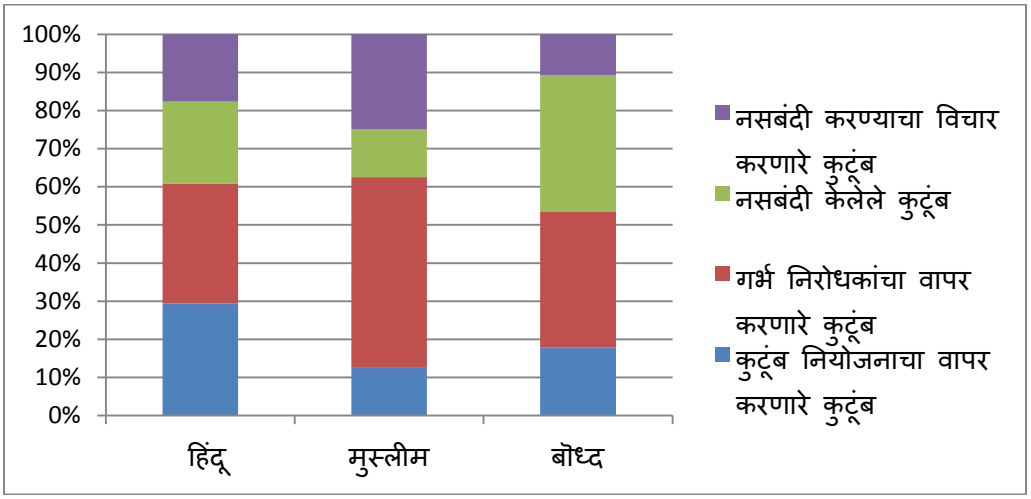
येथील प्राथमिक आरोग्य केंद्र अहमदपूर असून या गावात महिन्याच्या दुसऱ्या गुरुवारी लसीकरण घेतले जाते. आरोग्याच्या व इतर कुटूंब नियोजनाच्या माहिती मोहीम हि डोर टू डोर या माध्यमातून आशा कार्यकर्ता सतत करत असतात. काही अडचण निर्माण झाल्यास ते महाराष्ट्र आरोग्य विभागाचा संपर्क क्रमांक १०४ या वर संपर्क करतात.

धानोरा या गावाची सर्वेक्षणातून जी परिस्थिती समोर आली त्या नुसार गावातील ८० कुटूंबाचे प्रश्नावली च्या माध्यमातून सर्वेक्षण केले त्या मध्ये ४५ कुटूंब हिंदू धर्माचे, ०५ कुटूंब मुस्लीम धर्माचे, ३० कुटूंब नवं बौध्द व बौध्द धर्माचे आचरण करणारे आहेत.एकूण कुटूंब संख्येच्या जवळपास ३३% कुटूंबाचे या दरम्यान सर्वेक्षण घेण्यात आले आहे.

कुटूंबाचे प्रश्नावली च्या माध्यमातून सर्वेक्षण (टक्केवारी)

अ.क्र.	कुटूंबाचा धर्म	कुटूंबाची संख्या	कुटूंब नियोजनाचा वापर करणारे कुटूंब		गर्भ निरोधकांचा वापर करणारे कुटूंब		नसबंदी केलेले कुटूंब		नसबंदी करण्याचा विचार करणारे कुटूंब	
			संख्या	%	संख्या	%	संख्या	%	संख्या	%
१	हिंदू	४५	३०	६६.६	३२	७१.१	२२	४८.८	१८	४०
२	मुस्लीम	०५	०१	२०	०४	८०	०१	२०	०२	४०
३	बौध्द	३०	१०	३३.३	२०	६६.६	२०	६६.६	०६	२०

(माहिती स्तोत्र :- सर्वेक्षणाच्या माध्यमातून) (सारणी क्र. :- १)



(आलेख क्र. :- १)

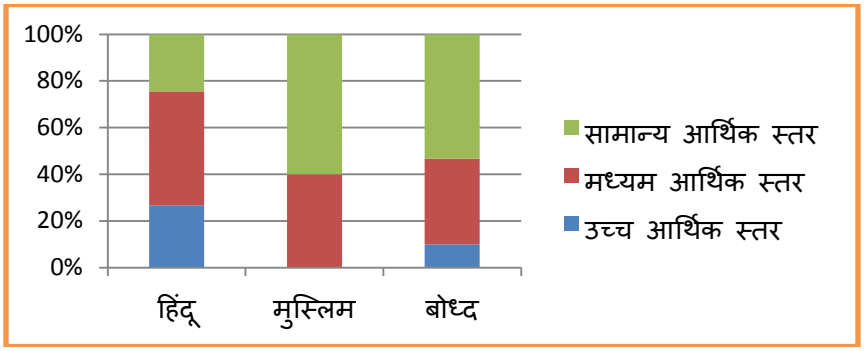
लातूर जिल्ह्यातील धानोरा या गावाचे सर्वेक्षण केल्यावरून हिंदू धर्मातील ज्या ४५ कुटूंबाचे सर्वेक्षण केले त्यामध्ये ३० कुटूंब हे कुटूंब नियोजनाचा वापर करणारे दिसून येतात तर ३२ कुटूंब हे गर्भ निरोधकांचा यात (निरोध,गर्भ निरोध गोळ्या,तांबी,फेस येणाऱ्या गोळ्या,काही नेसर्गिक पद्धत,काही आत्मसंयम.इत्यादी.) वापर करणारे दिसून आले.आणि २२ कुटूंब हे नसबंदी केलेले व १८ कुटूंब हे नसबंदीचा विचार करणारे आहेत.तर मुस्लीम धर्माचे ०५ कुटूंबाचे सर्वेक्षण केले यात ०१ कुटूंब हे कुटूंब नियोजनाचा वापर करणारे दिसून येतात तर ०४ कुटूंब हे गर्भ निरोधकांचा यात (निरोध,गर्भ निरोध गोळ्या,तांबी,फेस येणाऱ्या गोळ्या,काही नेसर्गिक पद्धत,काही आत्मसंयम.इत्यादी.) वापर करणारे दिसून आले.आणि ०१ कुटूंब हे नसबंदी केलेले व ०२ कुटूंब हे नसबंदीचा विचार करणारे आहेत. आणि बौध्द धर्माचे ३० कुटूंबाचे सर्वेक्षण केले यात १० कुटूंब हे कुटूंब नियोजनाचा वापर करणारे दिसून येतात तर २० कुटूंब हे गर्भ निरोधकांचा यात (निरोध,गर्भ निरोध गोळ्या,तांबी,फेस येणाऱ्या गोळ्या,काही नेसर्गिक पद्धत,काही आत्मसंयम.इत्यादी.) वापर करणारे दिसून आले.आणि २० कुटूंब हे नसबंदी केलेले व ०६ कुटूंब हे नसबंदीचा विचार करणारे आहेत. यावरूनच

तीनही धर्माचा विचार व यावरून धानोरा गावाची लोकसंख्या विचारात घेतल्यास अलीकडील काळात हिंदू व बौध्द धर्माची आणि मुस्लीम धर्माची संख्या मध्यम गतीने वाढ झालेली दिसून येते.

कुटूंब नियोजनामुळे आर्थिक स्तर (टक्केवारी)

अ.क्र.	कुटूंबाचा धर्म	कुटूंबाची संख्या	कुटूंब नियोजनामुळे उच्च आर्थिक स्तर असणारे कुटूंब		कुटूंब नियोजनामुळे मध्यम आर्थिक स्तर असणारे कुटूंब		कुटूंब नियोजनामुळे सामान्य आर्थिक स्तर असणारे कुटूंब	
			संख्या	%	संख्या	%	संख्या	%
१	हिंदू	४५	१२	२६.६	२२	४८.८	११	२४.४
२	मुस्लीम	०५	००	००	०२	४०	०३	६०
३	बौध्द	३०	०३	१०	११	३६.६	१६	५३.३

(माहिती स्तोत्र :- सर्वेक्षणाच्या माध्यमातून) (सारणी क्र. :- २)



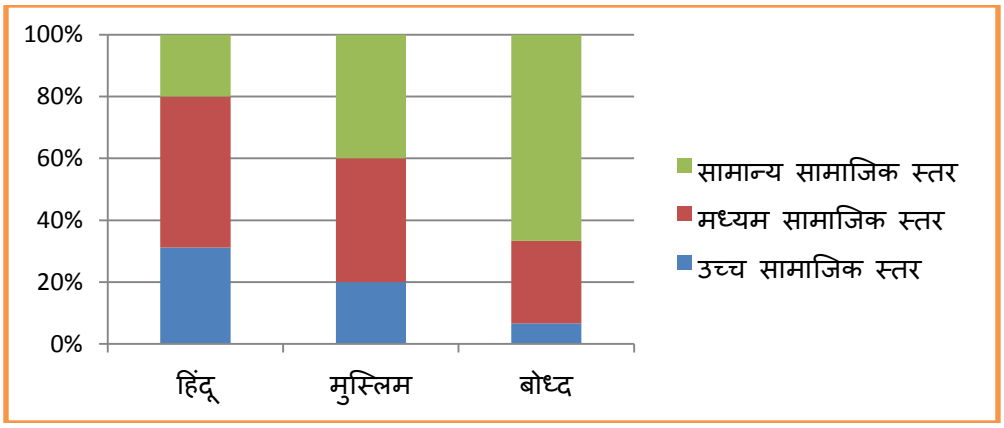
(आलेख क्र. :- २)

सर्वेक्षण केलेल्या कुटूंबाचे आर्थिक स्तर वरून विवेचन केल्यास हिंदू धर्माचा ४५ कुटूंब पैकी १२ कुटूंबाची आर्थिक स्तर उच्च दिसून येतो. २२ कुटूंबाचा आर्थिक स्तर मध्यम दिसून येतो.तर ११ कुटूंबाचा आर्थिक स्तर सामान्य दिसून येतो.तसेच मुस्लीम धर्माच्या आर्थिक स्तराचे विवेचन १० कुटूंब पैकी एकही कुटूंबाची आर्थिक स्तर उच्च दिसून येत नाही. ०२ कुटूंबाचा आर्थिक स्तर मध्यम दिसून येतो.तर ०३ कुटूंबाचा आर्थिक स्तर सामान्य दिसून येतो.आणि बौध्द धर्माचे आर्थिक स्तराचे विवेचन ३० कुटूंब पैकी ०३ कुटूंबाची आर्थिक स्तर उच्च दिसून येतो. ११ कुटूंबाचा आर्थिक स्तर मध्यम दिसून येतो.तर १६ कुटूंबाचा आर्थिक स्तर सामान्य दिसून येतो.यावरूनच असे दिसून येते कि ज्या धर्मात कुटूंब नियोजनांचे योग्य नियोजन करण्यात आले आहे.त्या कुटूंबाचे आर्थिक स्तर वाढलेला दिसून येतो.

कुटूंब नियोजनामुळे सामाजिक स्तर (टक्केवारी)

अ.क्र.	कुटूंबाचा धर्म	कुटूंबाची संख्या	कुटूंब नियोजनामुळे उच्च सामाजिक स्तर असणारे कुटूंब		कुटूंब नियोजनामुळे मध्यम सामाजिक स्तर असणारे कुटूंब		कुटूंब नियोजनामुळे सामान्य सामाजिक स्तर असणारे कुटूंब	
			संख्या	%	संख्या	%	संख्या	%
१	हिंदू	४५	१४	३१.१	२२	४८.८	०९	२०
२	मुस्लीम	०५	०१	२०	०२	४०	०२	४०
३	बौध्द	३०	०२	६.६	०८	२६.६	२०	६६.६

(माहिती स्तोत्र :- सर्वेक्षणाच्या माध्यमातून) (सारणी क्र. :- ३)



(आलेख क्र. :- ३)

सर्वेक्षण केलेल्या कुटूंबाचे सामाजिक स्तर वरून विवेचन केल्यास हिंदू धर्माचा ४५ कुटूंब पैकी १४ कुटूंबाची सामाजिक स्तर उच्च दिसून येतो. २२ कुटूंबाचा सामाजिक स्तर मध्यम दिसून येतो.तर ०९ कुटूंबाचा सामाजिक स्तर सामान्य दिसून येतो.तसेच मुस्लीम धर्माच्या सामाजिक स्तराचे विवेचन ०५ कुटूंब पैकी ०१ कुटूंबाची सामाजिक स्तर उच्च दिसून येतो. ०२ कुटूंबाचा सामाजिक स्तर मध्यम दिसून येतो.तर ०२ कुटूंबाचा सामाजिक स्तर सामान्य दिसून येतो.आणि बौध्द धर्माचे सामाजिक स्तराचे विवेचन ३० कुटूंब पैकी ०२ कुटूंबाची सामाजिक स्तर उच्च दिसून येतो. ०८ कुटूंबाचा सामाजिक स्तर मध्यम दिसून येतो.तर २० कुटूंबाचा सामाजिक स्तर सामान्य दिसून येतो.यावरूनच असे दिसून येते कि ज्या धर्मात कुटूंब नियोजनांचे योग्य नियोजन करण्यात आले आहे.त्या कुटूंबाचे सामाजिक स्तर वाढलेला दिसून येतो. धानोरा या गावाची सर्वेक्षण अंतर्गत असे दिसून आले की ज्या कुटूंबाची संख्या कमी अशा कुटूंबाची आर्थिक व सामाजिक सधनता दिसून येते.या गावात मुस्लीम धर्मीय संख्या फार म्हणजे फक्त पाच कुटूंबाची संख्या आहे..पण काही हिंदू व बौध्द धर्मीय लोक ज्याची कुटूंब सदस्य संख्या जास्त म्हणजेच कुटूंब नियोजनाचा वापर कमी किंवा करण्यास वेळ घेतल्या मुळे सदस्य संख्या जास्त आणि कुटूंबाचे आर्थिक नियोजन कोलमोडलें यातूनच सामाजिक नियोजन सुद्धा कमी झाले.याचाच परिणाम म्हणजे लोकसंख्या वाढ परिणामी भोगोलिक परिस्थितीवर विपरीत परिणाम झालेला दिसून येतो.

निष्कर्ष :-

१) लातूर जिल्ह्यातील धानोरा या गावाची सर्वेक्षित कुटूंबाचे आकलन केल्यास ज्या कुटूंबाने कुटूंब नियोजन केले आहे त्याचे आर्थिक व सामाजिक स्तर सुधारलेला दिसून येतो.

२) " कुटूंब लहान सुख महान " या म्हणी नुसार कुटूंबाची संख्या हि त्याच्या प्रत्येक घटकावर परिणाम करते.

३) सर्वेक्षित कुटूंबाचे आकलन केल्यास गावातील लोकसंख्या वाढीचे आकलन होते.

४) लातूर जिल्ह्यातील धानोरा या गावाची सर्वेक्षित कुटूंबाचे आकलन केल्यास कोणत्या घटकावर अधिक भर देण्याची गरज आहे याचे आकलन होते.

५) यावरून वाढत्या लोकसंख्येचा प्राकृतिक घटकावरील परिणाम लक्षात येतो.

संदर्भ सूची :-

१) लोकसंख्या भूगोल (डॉ.शेटे ,डॉ.शहापूरकर ,डॉ .सुरेश फुले)

२) लोकसंख्या भूगोल (डॉ.घारपुरे विठ्ठल)

३) population Geography (ए.बी.सवंदी)

४) जिल्हा आर्थिक व सामाजिक समालोचन (२०११ ते २०१८).

५) परिवारनियोजन भूगोल (डॉ.दिनेश मोहन).

६) www.google.com.

७) www.larujilhgov.com.

८) www.environmental.science.com.

९) लातुर जिल्हा आरोग्य पत्रिका (२०११ ते २०२०)

शाश्वत विकास साध्यतेसाठी सामाजिक आरोग्य

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सारांश

मानव व समस्त जीवसृष्टीचे अस्तित्व टिकवून ठेवण्याच्या दृष्टीने शाश्वत विकास आवश्यक ठरतो शाश्वत विकास ही सर्वसमावेशक संकल्पना आहे या संकल्पनेच्या विविध घटक, शाश्वत विकासाचे विविध पैलू व त्यामधील परस्पर संबंधाचे आकलन होते.वर्तमान परीस्थिती मध्ये विकास साधताना भविष्यात समस्या उदभवणार नाही याची काळजी घेणे गरजेचे असते.सामाजिक आरोग्य हा विकासावर परिणाम करणारा घटक आहे. व्यक्ती समाजाचा घटक असून व्यक्तीचे बिघडलेले आरोग्य सामाजिक आरोग्य बिघडविण्यास कारणीभूत ठरते.कॉविड19 मुले सामाजिक आरोग्याचे महत्व अधोरेखित होवून

विज्ञान, तंत्रज्ञानातील प्रगतीमुळे जग प्रगतीपथावर असल्याचे आज दिसून येते. या प्रगतीवरच विकास होत असल्याचा दावा केला जातो. प्रचंड प्रमाणात भौतिक व आर्थिक विज्ञान व तंत्रज्ञानामुळे साध्य होत असले तरी केवळ भौतिक साधनसामग्री ची उपलब्धता व आर्थिक संपन्नता संपूर्ण विकासाची संकल्पना होऊ शकत नाही. कारण या स्वरूपाच्या प्रगतीमुळे इतर समस्या दूर होऊ शकत नाहित परंतु काही नवीन समस्या निर्माण झालेल्या दिसून येतात. आर्थिक विकास संदर्भात विचार केला असता राष्ट्रीय उत्पन्नातील वाढ दिसून येत असली तरी दारिद्र्य, बेरोजगारी या समस्यांचे पूर्णतः निर्मुलन झाल्याचे आढळून येत नाही.

भौतिक प्रगतीमध्ये औद्योगीकरणाचे प्रमाण वाढले त्यानुसार विविध प्रकारच्या उत्पादनांमध्ये वाढ झालेली दिसून येते. त्यासाठी कच्ची साधनसामग्री गरजेची असते ही सर्व कच्ची साधनसामग्री प्रामुख्याने निसर्गातून उपयोगात आणली जाते. त्यामुळे नैसर्गिक साधन सामग्रीचा प्रचंड प्रमाणात वापर वाढला हे वास्तव आहे. वापराच्या प्रमाणात नैसर्गिक साधन सामग्रीत वाढ करण्याच्या दृष्टीने प्रयत्न मात्र नगण्य आहेत. त्यामुळे असंतुलन निर्माण झाल्याचे दिसून येते.याचप्रकारे नैसर्गिक साधनसंपत्तीचा ऱ्हास होत राहिल्यास केवळ मानवजातच नव्हे तर संपूर्ण सजीव सृष्टी धोक्यात येईल.

सद्य परिस्थितीतच आपल्याला भीषण पाणी टंचाई,नैसर्गिक वायू,पेट्रोलटंचाई इतकेच नव्हे तर हवा,पाणी,जामीन प्रदूषण,तापमानवाढ इ. दुष्परिणाम जाणवू लागलेले आहेत. या सर्वांचा मानवी आरोग्य व इतर सजीव सृष्टी वर होत आहे. भविष्यकाळात ह्या समस्यांची तीव्रता भयावह होईल यात शंका नाही. ही स्थिती अधिक बिघडू नये यासाठी प्रयत्न करणे आवश्यक आहे.तरच भविष्यातील विध्वंस टाळणे शक्य होणार आहे.

शाश्वत विकास

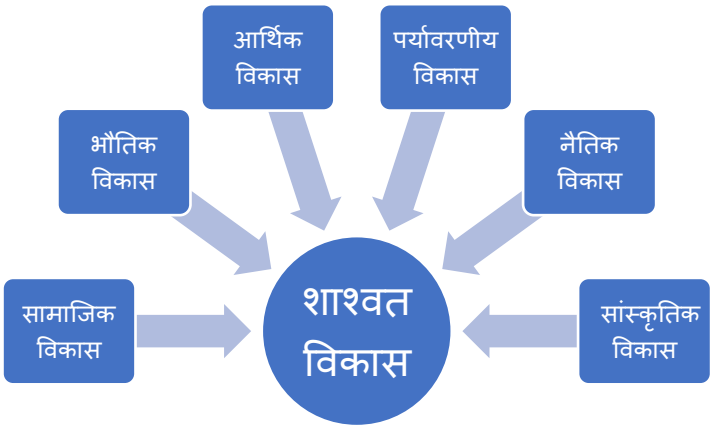
शाश्वत विकास यालाच चिरंजीवी विकास,चिरंतन विकास असेही प्रतिशब्द वापरले जातात.१९७२ च्या स्टॉकहोम,स्वीडन येथील जागतिक पर्यावरण परिषदेत सर्वप्रथम उल्लेख आलेली ही संकल्पना world Commission on Environmental Development येथे - Burdtland यांनी मांडली – “Development that meats the need of the present generation without compromising the ability of the future generation to meet their own needs”

ब्रुडलँड यांच्या मते भावी पिढीच्या गरजा भागविण्याच्या क्षमता अबाधित राखून वर्तमान पिढी आपल्या गरजा भागवितात अशा स्वरूपाचा विकास म्हणजे शाश्वत विकास होय सर्व व्यक्तींना आपल्या गरजांची पूर्तताकरण्यासाठी,अधिक चांगल्या प्रकारे जीवन जगण्याची संधी प्राप्त करून देणे शाश्वत विकासात अभिप्रेत आहे. Robert Repetto यांच्या मते भावी पिढीच्या राहणीमानाच्या दर्जाच्या स्थितीत बिघाड होवू नये या दृष्टीकोनातून सध्याच्या परिस्थितीत विचार करणे हा शाश्वत विकासाचा गाभा आहे.

शाश्वत विकास हा भविष्याचा वेध घेवून वर्तमान काळात नैसर्गिक साधनसंपत्तीचा विवेकपूर्ण रितीने वापर करून वापर करून व्यक्तीच्या आर्थिक ,सामाजिक,पर्यावरणीय गरजा भागवून साधलेला विकास होय.

शाश्वत विकासाचे पैलू :-

शाश्वत विकास हा विविध पैलू असणारी संकल्पना आहे



शाश्वत विकासाचे विविध पैलू

शाश्वत विकास सर्वसमावेशक असतो. भौतिक विकास ,सामाजिक विकास, आर्थिक विकास ,पर्यावरणीय विकास ,नैतिक विकास, सांस्कृतिक विकास याचा समावेश शाश्वत विकासात होतो.या विविध पैलू शाश्वत विकास सह्या कारसाठी आधारभूत ठरतात.यातील कोणत्याही घटकावर होणारा परिणाम हा विकासाचे संतुलन बिघडविण्यास कारणीभूत ठरतो.

सद्यस्थितीतील आव्हान सामाजिक आरोग्य आणि शाश्वत विकास –

सामाजिक आरोग्य हे वैयक्तिक आरोग्याचे विस्तारित स्वरूप आहे

सामाजिक आरोग्य- सामाजिक आरोग्य म्हणजेसमाजातील प्रत्येक घटकाची शारीरिक,मानसिक,भावानिक व सामाजिक सुस्थिती होय.

वर्तमानकाळातील परिस्थिती विकासाच्या वेगावर परिणाम करते. कोविड19 च्या प्रादुर्भावामुळे आरोग्य समस्या मोठ्या प्रमाणावर निर्माण झालेली आहे.उद्भवलेल्या परिस्थितीचा समाजावर झालेला परिणाम म्हणजे समाजातील व्यक्तींचे मानासिक व शारीरिक आरोग्याची समस्या मोठ्या प्रमाणावर निर्माण झाली आहे

कोविड19 मुळे गंभीर स्वरुपाची सामाजिक समस्या निर्माण झाल्यामुळे सामाजिक आरोग्य व त्यासाठी आवश्यक सुविधांची कमतरता हा प्रश्न ऐरणीवर आला आहे.बिघडलेल्या सामाजिक आरोग्याचा परिणाम समस्या आर्थिक,मानसिक घटकावर झालेला दिसून येतो. आरोग्य,लसीकरण,वैद्यकीय सुविधा या बाबींची कमतरता व अनुपलब्धता हे घटक देखील आजारा इतकेच च गंभीर परिणाम करणारे घटक ठरत आहेत.या परिस्थिती मुळे पर्यावरण स्वच्छता व संवर्धनाची गरज देखील अधोरेखित झालेली दिसून येते.

शाश्वत विकास आणि सामाजिक आरोग्य – व्यक्ती समाजाचा अविभाज्य घटक आहे सामाजिक हितसंबंध जपून व्यक्ती स्वतःची प्रगती करते तेव्हा सामाजिक विकास होत असतो.ही प्रगती सामाजिक पैलूशीच निगडीत न राहता आर्थिक, भौतिक ,नैतिक,सामाजिकह्या वर देखील परिणाम करत असते . तसेच या सर्व पैलूंचा परिणाम व्यक्तींवरदेखील होत असतो.व्यक्ती ही समाजाचा घटक असल्यामुळे मोठ्या प्रमाणावर निर्माण झालेल्या या समस्येमुळे सामाजिक आरोग्य हा शाश्वत विकासाच्या इतर पैलूवर परिणाम करणारा प्रभावी घटक ठरत आहे.समाजातील व्यक्तींचे आरोग्य बिघडल्यास त्याच्या शारीरिक मानसिक कार्यक्षमतेवर परिणाम होतो त्यामुळे विकासावर नकारात्मक परिणाम होतो परिणामी सामाजिक विकास खंडित होतो

वर्तमान कालीन समस्या सोडविण्याच्या आव्हानाबरोबरच पुढील काळात अशी परिस्थिती उद्भवू नये म्हणून व उदभवल्यास आवश्यक उपाययोजना करण्याच्या दृष्टीने नियोजन करणे आवश्यक ठरते.

सामजिक आरोग्यसंवर्धन करण्यासाठी उपाययोजना –

रोगप्रतीबंधात्मक उपाययोजना – रोग होवू नये या दृष्टीकोनातून प्रयत्न करणे

१. जनजागृती २. संतुलित आहार ३. आरोग्यदायी सवयी ४. लसीकरण.

भविष्यकालीन उपाययोजना – रुग्णालय , विविध आरोग्य सुविधा उपलब्ध करण्याच्या दृष्टीने नियोजन व प्रयत्न. त्यासाठी पुढील घटकांचे सहकार्य मिळवणे.

१. उद्योजकांचा सहभाग २. लोकसहभागातून सुविधा ३. शासकीय सहभाग

समारोप

सामाजिक आरोग्य राखणे व संवर्धित करणे यामुळे सामाजिक प्रगती वा विकास साधने शक्य होते त्याचा परिणाम म्हणून आर्थिक, सांस्कृतिक, सामाजिक प्रगती साधने शक्य होते. ही प्रगती साधतांना पर्यावरणीय घटकाचे महत्व विसरून चालणार नाही. नैतिकतेची जोड देऊन साधलेला विकास मानसिक, शारीरिक आरोग्य संवर्धित करते. यातूनच शाश्वत विकासाकडे वाटचाल करणे शक्य होते ज्याद्वारे पुढील पिढीला वारसा म्हणून संपन्नता व आरोग्य देणे शक्य होईल.

संदर्भ

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आर्थिक विकास

प्रा. डॉ.एन.के. वाघमारे[1] गोंड रामराव संभाजी[2]

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[2]संशोधक विद्यार्थी भूशास्त्र संकुल स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड.

<u>प्रस्थावना :-</u>

आज आधुनिकीकरणाच्या काळात आपल्या देशात आर्थिक विकासाला खुप महत्व प्राप्त झाले आहे. आज आपल्या देशात होत असलेले डिजिटलाझेशन (Digitization), मेक इन इंडिया (Make in India), स्मार्ट सिटी (Smart City),स्टार्ट अप (Start Ups) यांचा विकास हा आर्थिक विकासाचाच एक भाग आहे. आर्थिक विकास म्हणजे राष्ट्रीय उत्पन्न,दरडोई उत्पन्नात वाढ या बरोबर सामाजिक कल्याणात वाढ हा ही आर्थिक विकासाचाच भाग आहे.म्हणून आर्थिक विकास सकल्पना समजणे महत्वपुर्ण आहे. पुढे आर्थिक विकासा विषयी काही मते स्पष्ट केली आहेत.

आधुनिकीकरणाच्या काळात आज आर्थिक विकासाला अनन्य साधारण महत्व प्राप्त झाले आहे. अँडम स्मिथच्या पूर्वकाळापासून अर्थशास्त्रज्ञ आर्थिक विकासाच्या समस्येच्या वर आपले विचार मांडत आहेत. दुसर्यामहायुद्धानंतर स्वातंत्र झालेल्या अल्पविकसीत देशांनी आर्थिक विकासाकडे विशेष लक्ष पुरविलेले दिसते.सर्व देशामध्ये विकासाची प्रबळ प्रेरणा निर्माण झाली आहे आणि त्या दृष्टीने ते देळ प्रयत्नशील आहेत. विकासाचे उद्दिष्ट गाठण्यासाठी विविध देश जसे वंशातर्गत प्रयत्न करतात तसेच आंतरराष्ट्रीय स्तरावर सुद्धा त्यांचे गट क्रियाशील आहेत. एखाद्या हे अन्य ठिकाणच्या संपन्नतेला धोकादायक ठरु शकते त्यामुळे इंग्लंड,अमेरिका या देशातील गरीब देशाच्या विकासाकडे आपले लक्ष केंद्रित केलेले दिसते.

आर्थिक विकासाच्या संकल्पनेचा अभ्यास करताना तो दोन बाजुने विचारात घेतला जातो.

१.<u>पारंपारिक दृष्टीकोन :-</u>

आर्थिक विकास म्हणजे देशाच्या उत्पादन क्षमतेत वाढ होऊन देशाच्या एकूण राष्ट्रीय उत्पन्नात (G.N.P.) किंवा देशी मिश्र उत्पन्नात (G.D.P.) वाढ होणे होय.

आर्थिक विकासाच्या प्रक्रियेत जर विकासाचा दर हा लोकसंख्या वाढीच्या दरापेक्षा जास्त असेल तर दरडोई उत्पन्नात सुद्धा वाढ घडून येते.

म्हणून पारंपारिक दृष्टीकोनानुसार आर्थिक विकासाचा संबंध दरडोई राष्ट्रीय उत्पन्नातील वाढीची जोडलेला दिसून येतो.

प्रा. मायर आणि बाल्डविन :-

आर्थिक विकास ही अशी प्रकिया आहे की, ज्या मध्ये एखाद्या अर्थव्यवस्थेचे वास्तविक दरडोई उत्पन्न दिर्घकाळ पर्यंत वाढत जाते. प्रा. मायर आणि बाल्डविन यांच्या व्याख्येतुन आर्थिक विकासाची पुढील तीन वैशिष्ट्ये आहेत.

१.आर्थिक विकास ही एक प्रक्रिया आहे.

आर्थिक विकास ही सतत चालणारी प्रक्रिया आहे.अर्थव्यवस्थेत सतत परिवर्तन होवून देशाचे वास्तविक दरडोई उत्पन्न वाढ, विकासाच्या प्रक्रियेत भूमी,श्रम,भांडवल,संघटन, नैसर्गिक संसाधने,तंत्रज्ञान इ. आर्थिक घटक किंवा शक्ती कार्यरत त्याच्या सहकार्यातुन वस्तु व सेवांची निर्मिती करतात. उत्पादनात सतत वाढ होत जाते.

२.वास्तविक राष्ट्रीय उत्पन्नात वाढ होणे महत्वाचे ठरते :-

आर्थिक विकासाच्या प्रक्रियेत मौखिक उत्पन्नातील वाढी ऐवजी वास्तविक उत्पन्नातील वाढीचा विचार केला जातो.

३.दिर्घकालीन प्रक्रिया:-

उत्पन्न वाढीच्या प्रक्रियांचा विचार दिर्घकाळाच्या संदर्भात केला जातो.

<u>२. आधुनिक विचार :-</u>

केवळ देशातील उत्पन्नातील वाढीमुळे देशाचा विकास घडुन येत नसून त्याकरिता दारिद्र्य,बेरोजगारी आर्थिक विषमतेवर प्रत्यक्ष हल्लाकरुन ते नष्ट करणे गरजेचे आहे. आर्थिक विकासाच्या संकल्पनेची नव्याने मांडणी केली आणि आर्थिक विकासाचा संबंध गरिबी निर्मुलन, आर्थिक समानती आणि रोजगार निर्मितीशी जोडला आहे.

१.जागतिक बँकेच्या विकासाबाबतचा दृष्टीकोन :-

जागतिक बँकेच्या मते, आर्थिक विकास म्हणजे मानवाच्या दर्जात वाढ करणे असून ही जीवनमानातील वाढ केवळ उत्पादनातील वाढीमुळे घडुन येत नसून त्याकरिता चांगल्या प्रकारचे शिक्षण, उच्च प्रतिचे आरोग्य,पौष्टिक आहार, दारिद्र्य निर्मुलन,स्वच्छ हवामान,समान संधी पर्याप्त व्यक्तीगत स्वातंत्र आणि उच्च दर्जाच्या सांस्कृतिक मूल्यांची निर्मिती होणे आवश्यक आहे

२. प्रो.मायकेल पी. टोडारो आणि प्रो. एस.सी. स्मिथ यांचे विकासाबाबतचे मत :-

आर्थिक विकास ही बहुआगामी प्रक्रिया असून या प्रक्रियेत, सामाजिक रचनेत मोठ्या प्रमाणात बदल, वास्तववादी प्रवृत्ती, राष्ट्रीय संस्थामध्ये बदल, तसेच आर्थिक वाढीला चालना, आर्थिक विषमता करणे, दारिद्र्य निर्मुलन करणे इ.चा अंतर्भाव होतो. तसेच या प्रक्रियेत व्यक्तीच्या आणि समाजाच्या मूलभूत गरजांची आणि इच्छांची पूर्तता होवून त्यांच्या भौतिक व आनंदी जीवनाचा दर्जा उंचावण्यासाठी संपुर्णता सामाजिक पद्धती मध्ये सार्वत्रिक बदल होणे. आर्थिक विकासामध्ये अभिप्रेत आहे.

३.अमर्त्य सेन यांचे विकासाबाबतचे मत :-

आर्थिक वृद्धी म्हणजे गरजांची पूर्तता नसून मानव जे जीवन जगतो आणि जी स्वातंत्रे उपभोगतो त्यांचा दर्जा वाढवण्याशी विकासाचा सबंध असला पाहिजे. त्याच्या मते, आर्थिक विकासामुळे व्यक्तीच्या क्षमतेत वाढ झाली पाहिजे.

ड़ॉ.सेन यांचा विकासाचा दृष्टीकोन आरोग्य आणि शिक्षणावर मोठा भर देतो. आर्थिक विकास म्हणजे उत्पन्नातील वाढी बरोबर व्यक्तीगत स्वातंत्र सर्वाना होऊन त्यांच्या गरदांची पूर्तता होणे होय.

दरडोई उत्पन्न हे प्रतिमाणसी राष्ट्रीय स्थूल उत्पादनाचे प्रमाण दर्शवते. युरोपीय देश आकाराने लहान आहेत. या देशांत लोकसंख्येची घनता जास्त आहे आणि व्यापाराची प्रदिर्घ परंपरा आहे.

हे देश कोळसा आणि लोहखनिज संसाधनांनी समृद्ध आहेत आणि औद्योगिक क्रांतीचे आद्य प्रवर्तक आहेत. देशांतर्गत आणि देशादेशांमध्ये जलमार्ग,रस्ते आणि लोहमार्ग यांचे जाळे विकसीत झाले आहे.

व्यापारी शेती,नागरीकरण, विकसीत पायाभूत सुविधा, अनुकूल वाणिज्य आणि व्यापार इत्यादी रचनात्मक घटकांमुळे या देशांचे दरडोई उत्पन्न मूल्य जास्त आहे.

याचाच अर्थ हे देश आर्थिकदृष्ट्या विकसीत आहेत. मात्र हे देश केवळ आर्थिकदृष्ट्या नव्हे, तर मानवी व्कास निर्देशांकात आघाडीवर आहेत.

मानवी विकास हा आर्थिक विकासा (राहणीमाना) बरोबरच आरोग्य व शिक्षण या अन्य दोन बाबींचाही विचार करतो.युरोपीय देशांत आरोग्याच्या उत्तम सुविधा असून त्यामुळे या देशांताल लोकांचे आयुर्मानही जास्त आहे.

तसेच या देशांतील शिक्षणाचा स्तरही उच्च आहे. थोडक्यात य़ुरोपीय देश आर्थिक विकासाबरोबर सामाजिक-सांस्कृतिकदृष्ट्याही विकसीत आहेत.

जागतिक विकासाच्या आव्हानांना तोंड देण्यासाठी समयुक्त राष्ट्रसंघाने सप्टेवंर २००० मध्ये सहस्त्र विकासाची ध्येये निच्छित करुन ती २०१५ पर्यंत पूर्ण करण्याचे ठरविलेले आहे. तेव्हा संपूर्ण जगाच्या दृष्टीने महत्वपूर्ण असलेल्या आर्थिक विकास संकल्पनेचा अर्थ पाहिला. आर्थिक विकासात केवळ उत्पादन वाढच नव्हे तर उत्पादन घटक आणि उत्पादन यांच्या रचनेत होणारे बदल, उत्पादनासाठी वापरल्या जाणार्या तंत्रज्ञानात होणारे बदल, सामाजिक दृष्टीकोन,सांस्कृतिक वातावरण आणि समाजातील विविध संस्थामध्ये होणारे फेर बदल.

थोडक्यात आर्थिक विकास म्हणजे केवळ राष्ट्रीय किंवा दरडोई उत्पन्नाच वाढ नसून सामाजिक कल्याणात वाढ होणे म्हणजे आर्थिक विकास होय.

- विकासाचे आर्थिक निर्देशांक -
- जागतिक स्तरावरील विकासाचे निर्देशांक -
- लिंग असमानता निर्देशांक (Gender Inequality Index) -

आर्थिक विकास ही संकल्पना आर्थिक वृद्धी पेक्षा वेगळी आहे आणि व्यापक ही आहे. आर्थिक विकास ही एक गुणात्मक संकल्पना आहे. यासाठी विकासाची व्याख्या समजून घेणे आवश्यक ठरते. विकास म्हणजे कोणत्याही एका बाजुने झालेली प्रगती नव्हे तर सर्वांगीण झालेली प्रगती म्हणजे विकास म्हणतात. आर्थिक विकासातही विकासाची संकल्पना व्यापक आहे. यामध्ये अर्थव्यवस्थेचा सर्वांगीण विकास अपेक्षित आहे. मानवी जीवनमानाचा दर्जा उच्चतम पातळीला नेण्याच्या दृष्टीकोनातील आर्थिक विकास संकल्पना मांडता येते.

विकासामध्ये आर्थिक वृद्धी बरोबरच राष्ट्रीय उत्पन्नाचा वितरणातील इच्छित बदल आणि इतर तांत्रिक व संस्थात्मक बदल यांचा समावेश होतो. आर्थिक वृद्धी होत असताना दरडोई उत्पन्न दारिद्र्य बेरोजगारी वितरण व्यवस्था इत्यादी मध्ये काय बदल होत आहे यातून आर्थिक विकास सूचित होत असतोट म्हणजेच आर्थिक वृद्धी मळे विर्माण होणारे फायदे हे मर्यादित लोकसंख्या पुरते न राहता सर्वांगीण विकास व सामाजिक, आर्थिक कल्याण साधत असेल तरच त्याला आर्थिक विकास म्हटले जाईल.

आर्थिक विकास व आर्थिक वृद्धी या परस्परपूरक संकल्पना असून आर्थिक वृद्धी चे फायदे समाजातील लर्व घटकांना उपलब्ध होणे म्हणजे आर्थिक विकास होय. यावरुन आर्थिक विकासाची संकल्पना पुढीलप्रमाणे मांडता येईल.

आर्थिक विकास = आर्थिक वृद्धी + सामाजिक,आर्थिक कल्याण

मानवी विकास – संयुक्त राष्ट्रांने मानवी विकासाची व्याख्या लोकांच्या निवडीच्या विस्ताराची प्रक्रिया अशी केली आहे. संयुक्त राष्ट्र मानव विकास या संकल्पनेचा पुरस्कार केला आहे. मानवी विकासाच्या तीन बाजू समजल्या जातात दिर्घ व निरोगी जीवन(जीवनमान),ज्ञानाची सुगमता (शिक्षण), चांगले राहणीमान (क्रायशक्ती). हे तीन धटक मानवी विकासात महत्वाचे समजले जातात.

मानवी विकास ही लोकांच्या निवडीच्या विस्ताराच्या प्रक्रियेबरोबरच सुस्थिती उंचावण्याची ही प्रक्रिया आहे. आर्थिक वृद्धी मध्ये वस्तु व सेवांच्या उत्पादन वाढीबरोबरच देशाच्या उत्पन्नात वाढ अपेक्षित असते,मात्र मानवी विकासात मानवाच्या जीवनमानाच्या दर्जाचा स्तर उंचावणे अपेक्षित आहे. यामध्ये राडकीय,सामाजिक, आर्थिक,सांस्कृतिक या सर्व अंगाचा समावेश केला जातो.

समावेशी वृद्धी – सर्वांना सामावबन घेऊन साध्य झालेल्या वृद्धीला समावेशी वृद्धी से म्हणतात. समावेशी वृद्धीची संकल्पना सर्वप्रथम अकराव्या च्या दृष्टीकोन पत्रात मांडण्यात आली. भारताच्या नियोजन प्रक्रियेमध्ये आधीपासूनच न्यायासह वृद्धी किंवा समानतेसह वृद्धी या संकल्पना होत्या. न्यायासह वृद्धी या संकल्पनेचा आधार वितरणास्मक न्यायावर होता उत्पन्नाचे वितरण समान होण्यासाटी सरकारी हस्तक्षेप महत्वाचा मानण्यात आला. आर्थिक सुधारणा पासून म्हणजे १९९१ पासून सरकारची अर्थव्यवस्थेतील भूमिका कमी होऊ लागली व बाजार शक्तीचे महत्व वाढत गेले. बाजारअर्थव्यवस्थेत सामाजिक कल्याण,मानवी कल्याण विचारात घेतला जात नाही.तर फक्त आर्थिक वृद्धी विचारात घेतली जाते. म्हणुन असे म्हणावा लागेल की भारतात आर्थिक वृद्धी घडुन आली मात्र आर्थिक विकास म्हणावा तितका झाला नाही. या कारणामुळेच विकासापासून वंचित राहिलेल्या बहुसंख्य जनतेला विकासाच्या प्रक्रियेत सामावबन घेण्यासाठी समावेशी वृद्धी ही संकल्पना मांडण्यात आली.

अकराव्या, बाराव्या पंचवार्षिक योजनांमध्ये समावेशी वृद्धी साध्य करण्याचे लक्ष ठेवण्यात आले. अकराव्या योजनेचा भर वेगवान आणि अधिक समावेशी वृद्धी यावर होता तर बाराव्या योजनेचा भर व्गवान शाश्वत आणि अधिक समावेशी वृद्धी यावर होता.

विकासाचे आर्थिक निर्देशांक - विकासाच्या अंतिम उद्दिष्ट मानवी जीवनमानाचा दर्जा सुधारणे हे आहे यासाठी आर्थिक वृद्धी हे एक माध्यम आहे. एखाद्या देशाचा आर्थिक विकास मोजण्यासाठी ज्या घटकांचा वापर केला जातो त्यांना आर्थिक विकासाचे निर्देशांक असे म्हणतात.

१.राष्ट्रीय उत्पादन व उत्पन्न – देशातील आर्थिक क्रियांचा विकास मोजण्यासाठी राष्ट्रीय उत्पादन व उत्पन्न यांचा विचार केला जातो हे राष्ट्रीय उत्पादन चालू वस्तीत किंमतीला मोजले जाते.

२.दरडोई उत्पन्न – दरडोई उत्पन्न हे सुद्धा आर्थिक निर्देशक मानले जाते. मात्र हा सरासरी असतो. दरडोई उत्पन्नाचे वितरण व समान असू शकते.

३.उत्पन्न व संपत्ती- देशातील उत्पन्न व संपत्तीची समानता व असमानता हे सुद्धा आर्थिक विकासाचे निर्देशक आहे. यासाठी गिनी गुणांक, लॉरेंझ वक्ररेषा यांचा वापर केला जातो.

४.दारिद्र्य – देशातील दारिद्र्याची स्थिती काढण्यासाठी दारिद्र्यरेषा मांडली जाते दारिद्र्यरेषेच्या आधारावर ती दारिद्र्याचे प्रमाण समजुन येते. यावरुन देशातील उपासमार, कुपोषण, निरक्षरता, जीवनमानाचा कमी दर्जा यासारख्या गोष्टींची माहिती होते म्हणून दारिद्र्य हासुद्धा विकासाचा निर्देशक आहे.

विकासाचे सामाजिक निर्देशांक-

१.शिक्षण विषयक निर्देशांक – देशातील शिक्षणाचा दर्जा शिक्षणाची सुगमता, एकूण साक्षरता दर, यामध्ये स्त्री साक्षरता पुरुष साक्षरता, शालेय गळतीचे प्रमाण कमी करणे, यासारख्या घटकांचा अभ्यास करुन शिक्षण विषयक निर्देशांक मांडला जातो. शिक्षण विषयक निर्देशांक हा एक सामाजिक विकासाचा निर्देशांक समजला जातो.

२.आरोग्य विषयक निर्देशांक – पोषण दर्जा स्वच्छतेची स्थिती जन्माच्या वेळचे आयुर्मान अर्भक मृत्युदर बाल मृत्युदर माता मृत्युदर यांच्या स्थितीवरुन आरोग्य विषयक निर्देशांक समजतो. जाशातील जनतेची आरोग्य विषयक स्थिती सामाजिक विकासाच्या दृष्टीने महत्वाचे असते.

३.लोकसंख्या वाढीचा दर - आर्थिक विकास व लोकसंख्या वाढीचा दर यांचा परस्पर संबंध खूप महत्वाचा असतो कमी विकसीत समाजात लोकसंख्या वाढीचा दर अधिक असतो.वाढत्या लोकसंख्येमुळे वितरण व्यवस्थेवर ताण निर्माण होवुन त्याचा परिणाम आर्थिक विकासावर होतो पर्यायाने सामाजिक विकासावर देखील होतो.

<u>जागतिक स्तरावरील विकासाचे निर्देशांक –</u>

जगातील विविध देशातील मानवी विकासात अंतर मोजण्यासाठी निर्देशांकाची रचना केला आहे.ही रचना संयुक्त राष्ट्र विकास कार्यक्रम (UNDP) ने केली आहे. UNDP मार्फत दरवर्षी मानव विकास निर्देशांक जाहीर केला जातो.

मानव विकास निर्देशांक (Human Development Index)- मानव विकास अहवाल १९९० मध्ये UNDP ने पहिल्यांदाच जाहीर केला. मानव विकास निर्देशांकाची संकल्पना महबुब उल हक आणि अमर्त्य सेन यांची होता. महबुब उल हक यांना मानव विकास निर्देशांकाचे जनक म्हणुन ओळखले जाते.पुढील निकर्षांच्या आधारे मानव विकास निर्देशांक काढला जातो. आरोग्य, शिक्षण, जीवनमानाचा दर्जा.

आरोग्य – देशाच्या आरोग्याचा दर मोजण्यासाठी जन्माच्या वेळचे आयुर्मान हा निर्देशांक वापरला जातो. कमाल आयुर्मान ८५ तर किमान आयुर्मान २० वर्षे समजले जाते.

शिक्षण – शाळेत प्रवेश घेणा-या मुलांनी किती वर्षे शिकणे अपेक्षित आहे हे विचारात घेतले जाते. कमाल शिक्षण अठरा वर्षे व किमान शून्य वर्ष समजले जाते.

जीवनमानाचा दर्जा - जीवनमानाचा दर्जा मोजण्यासाठी कार्यशक्ती उत्पन्न मोजले जाते कमाल उत्पन्न ७५ हजार डॉलर किमान १००डॉलर समजले जाते. या निर्देशांकाची किमान व कमाल मूल्य ठरवुन प्रत्येक देश या मूल्याच्या दरम्यान कोठे आहे यावरुन देशाचे निर्देशांक काढतात त्यांच्या सरसरी वरुन देशाचा मानव विकास निर्देशांक ठरवतात याचे मूल्य शून्य ते एक दरम्यान व्यक्त केले जाते एकच्या जवळ असलेले मूल्य मानवी विकासाचा उच्चस्तर दर्शवतो.

<u>निष्कर्ष</u>

आज आधुनिकीकरणाच्या काळात आपल्या देशात आर्थिक विकासाला खुप महत्व प्राप्त झाले आहे. आपल्या देशात होत असलेल्या मेक इन इंडिया, स्मार्ट सिटी आर्थिक विकास म्हणजे राष्ट्रीय उत्पन्न. दरडोई उत्पन्नात वाढ या बरोबर सामाजिक कल्याणात वाढ हा आर्थिक विकासाचाच भाग आहे.

आर्थिक विकास ही सतत चालणारी प्रक्रिया आहे. अर्थव्यवस्थेत सतत परिवर्तन होवुन देशाचे वास्तविक दरडोई उत्पन्नात वाढ विकासाच्या प्रक्रियेत भूमी,भांडवल, श्रम, संघटन, नैसर्गिक संसाधने, तंत्रज्ञान इ. आर्थिक विकास ही संकल्पना आर्थिक वृद्धीपेक्षा वेगळी आहे आणि व्यापकही आहे. आर्थिक विकास ही एक गुणात्मक संकल्पना आहे.

विकास म्हणजे कोणत्याही एका बाजुने झालेली प्रगती नव्हे रत सर्वांगीण झालेली प्रगती म्हणजे विकास होय. यामध्ये अर्थव्यवस्थेचा सर्वांगीण विकास अपेक्षित आहे. लोकसंख्या वाढीचा दर आर्थिक विकास व लोकसंख्या वाढीचा दर यांचा परस्पर संबंध खुप महत्वाचा असतो. वाढत्या लोकसंख्येमुळे वितरण व्यवस्थेवर ताण निर्माण होऊन त्याचा परिणाम आर्थिक विकासावर होतो.

अशा प्रकारे आर्थिक विकासाला अनन्य साधारण महत्व प्राप्त झाले आहे.

<u>संदर्भ ग्रंथ</u>

१. आर्थिक भूगोल – डॉ. सिसोदिया

२. आर्थिक भूगोल - डॉ. चतुर्भुज, मामोरिया, डॉ.रतन जोशी

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४.अर्थशास्त्र – भोसले, काटे

५. अर्थशास्त्र – के.एच. ठक्कर

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कणकवली तालुक्यातील भूमी उपयोजन व पीक प्रारूपाचा भौगोलिक अभ्यास (१९९१-२००१)

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गोषवारा -

एखाद्या देशतील किंवा प्रदेशातील पारिस्थितिकीय समतोल कायम राखून तिचा सामाजिक, आर्थिक व नैसर्गिक समतोल ढळू न देता प्राप्त मात्रेपर्यंत वापर करून घेणे यासाठी भूमी उपयोजांचा अभ्यास महत्त्वाचा आहे. अन्न ही मनवाची प्राथमिक गरज आहे आणि मानवस अन्नाची उपलब्धता करण्यासाठी भूमीची आवश्यकता असते. मानव आपल्याभौतिक गरजा भागवण्यासाठी विविध पद्धतीने भूमीचे उपयोजन करत असतो. यामुळेच स्थल व कालपरत्वे भूमी उपयोजनात बादल होत असतात. तसेच अभ्यास क्षेतात विषम प्राकृतीक रचना व जमिनीचे वेगवेगळे प्रकार इत्यादी कारणाने अभ्यास क्षेत्रात विविध प्रकारची पिके व भूमीचे विविध उपयोजन अभयसण्यासाठी कणकवली तालुक्यातील सामान्य भूमिउपयोजनाचा अभ्यास करण्यात आला आहे. अभ्यास क्षेत्रात फळे आणि भाजीपाला पीक क्षेत्रात संशोधन काळात ६७.२३% एवढी सकारात्मक वाढ झाली आहे.

प्रस्तावना-

एखाद्या देशतील किंवा प्रदेशातील पारिस्थितिकीय समतोल कायम राखून तिचा सामाजिक, आर्थिक व नैसर्गिक समतोल ढळू न देता प्राप्त मात्रेपर्यंत वापर करून घेणे यासाठी भूमी उपयोजांचा अभ्यास महत्त्वाचा आहे. अन्न ही मनवाची प्राथमिक गरज आहे आणि मानवस अन्नाची उपलब्धता करण्यासाठी भूमीची आवश्यकता असते. मानव आपल्याभौतिक गरजा भागवण्यासाठी विविध पद्धतीने भूमीचे उपयोजन करत असतो. यामुळेच स्थल व कालपरत्वे भूमी उपयोजनात बादल होत असतात. तसेच अभ्यास क्षेतात विषम प्राकृतीक रचना व जमिनीचे वेगवेगळे प्रकार इत्यादी कारणाने अभ्यास क्षेत्रात विविध प्रकारची पिके व भूमीचे विविध उपयोजन अभयसण्यासाठी कणकवली तालुक्यातील सामान्य भूमिउपयोजनाचा अभ्यास करण्यात आला आहे.

अभ्यास क्षेत्र -

भोगोलिक दृष्ट्या कणकवली तालुका हा महाराष्ट्र राज्यातील सिंधुदुर्ग जिल्ह्यात आहे. पूर्वदिशेला कोल्हापूर जिल्ह्याची सीमा, पश्चिमेस मालवण व देवगड तालुक्याची सीमा तर दक्षिणेस कुडाळ तालुक्याची सीमा आहे. कणकवली तालुक्याची उत्तर सीमा वैभाववाडी आणि राजापूर तालुक्याने बंदिस्त आहे. कणकवली तालुका १६° १५' १६" ते १६° १६' २२" उत्तर अक्षांश आणि ७३° ४२' १९" ते ७३ ४३' २३"रेखांशदरम्यान आहे. तर समुद्र सपाटी पासून अभ्यासक्षेत्र ५१ मीटर उंचीवर आहे. वार्षिक पर्जन्यमान ३००० ते ३५०० मिमी पर्यंत आहे. तालुक्याचे वातावरण उष्ण आणि दमट आहे. कणकवली तालुक्याचे एकुण क्षेत्रफळ ७७३३९ हेक्टर आहे. अभ्यास क्षेत्रात १०४ गावे असून एका शहराचा समावेश होतो. सन २०११ च्या जनगणनेनुसार एकूण लोकसंख्या १२३५४२ एवढी आहे तर लिकसंख्येची घनता प्रति चौ कि मी ला १७७ एवढी आहे.

उद्दीष्टे–

अभ्यासाची सामान्य उद्दिष्टे खालीलप्रमाणे आहेत-

१) अभ्यास क्षेत्रातील सामान्य भूमी उपयोजन अभ्यासणे.

२) अभ्यास क्षेत्रातील पीक प्रारूपाचा अभ्यास करणे.

गृहीतक - अभ्यास क्षेत्रात फलबाग व भाजीपाला पीक प्रारूपात बादल झाला आहे.

संशोधन पद्धती

प्रस्तुत संशोधन निबंधातसन १९९०-९१ ते २०१०-११ या कलावधीतमध्ये प्राथमिक व द्वितीय सामुग्री संकलित करून तिचा वापर करण्यात आला आहे. प्राथमिक सामुग्री संकलांनासाठी प्रश्नावली सर्वेक्षणआणि निरीक्षण या साधनाचा उपयोग केला आहे. तर द्वितीय सामुग्री जिल्हा संख्याकी विभाग जिल्हा जनगणना अहवाल कृषी विभागणे प्रसिद्ध पिकांचे अहवाल याद्वारे संकलित केली असून भूमी उपयोजन व पीक प्रारूपाची माहिती मिळवण्यात आली आहे.

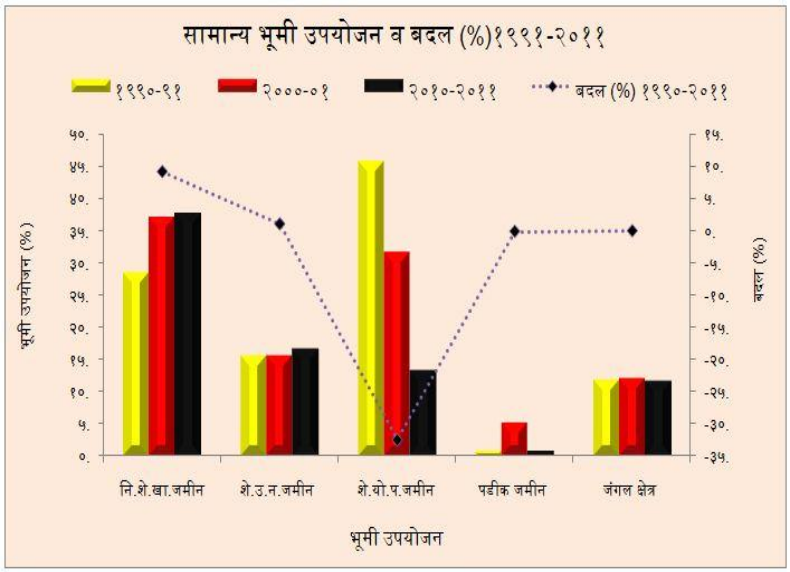
तसेच पीक प्रारूप, नकाशा, आलेख इत्यादी विविध तक्ते काढून संबधीत माहितीचे विश्लेषण केले आहे.

अभ्यास क्षेत्राचे सामान्य भूमी उपयोजन १९९०-९१ ते २०१०-२१

भूमी उपयोजन	१९९०-९१		२०००-०१		२०१०-११		१९९०-९१ ते २०१०-११ मधील % बदल
	क्षेत्र हेक्टरमध्ये	क्षेत्र %	क्षेत्र हेक्टरमध्ये	क्षेत्र %	क्षेत्र हेक्टरमध्ये	क्षेत्र %	
निव्वळ पीक क्षेत्र	२१९००	२८.३३	२८५९६	३६.९२	२९०२५	३७.५२	९.१९
कृषीकरिता उपलब्ध नसलेली जमीन	१०७००	१५.५२	१२००४	१५.५२	१२८३७	१६.५९	१.०७
शेती खाली नसलेली जमीन	३५३००	४५.६६	२४३५२	३१.३८	१०२०३	१३.१९	-३२.४७
पडीत जमीन	६००	०.७७	३९८८	५.१५	५४१	०.६९	-०.०८
जंगले	९०००	११.६४	९२३०	११.९३	८९९७	११.६३	-०.०१
एकूण	७७३००	१०० %	७७३३७	१०० %	७७३३९	१०० %	

स्त्रोत: सिंधुदुर्ग जिल्हा अहवाल सिंधुदुर्ग १९९१,२००१. सामाजिक-आर्थिक समालोचन व सांख्यिकीय अहवाल२०१०-११

अभ्यास क्षेत्राचे सामान्य भूमी उपयोजन १९९०-९१ ते २०१०-२१



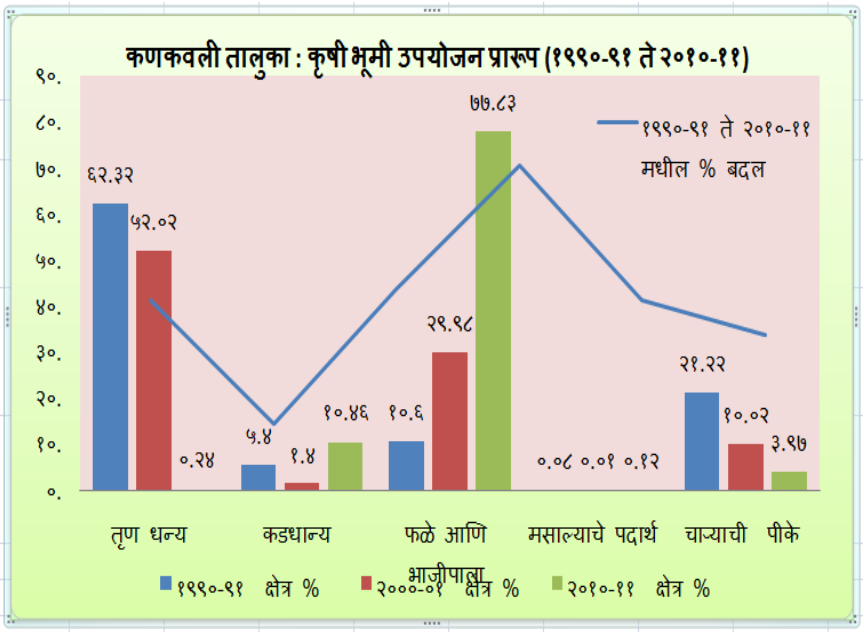
अभ्यास क्षेत्राचे सामान्य भूमी उपयोजन

कणकवली तालुक्यात सन १९९१ मध्ये एकूण क्षेत्रफळ ७७३०० हेक्टर होते. तर निव्वळ पिकाखालील क्षेत्र २१९०० हेक्टर (२८.३३%) होते २००१ साली एकूण क्षेत्रफळ ७७३३७ हेक्टर होते तर निव्वळ पिकाखालील क्षेत्र २८५९६ (३६.९२%) होते. २०११ मध्ये एकूण क्षेत्रफळ ७७३३९ हेक्टर हाते तर निव्वळ पिकाखालील क्षेत्र २९०२५ हेक्टर (३७.५२%). १९९१ ते २०११ या संशोधन कलावधीत अभ्यास क्षेत्रात निव्वळ पिकाखालील क्षेत्रात ९.१९ %ची सकारात्मक वाढ आढळते. १९९१ मध्ये अभ्यास क्षेत्राचे एकूण क्षेत्रफळ ७७३०० हेक्टर होते तर कृषी करिता उपलब्ध नसलेली जमीन १०७०० हेक्टर (१५.५३ %) होते सन २००१ एकूण क्षेत्रफळ ७७३३७ हेक्टर होते तर कृषी करिता उपलब्ध नसलेली जमीन १२००४ हेक्टर (१५.५२ %) होते. २०११ मध्ये एकूण क्षेत्रफळ ७७३३९ हेक्टर तरकृषी करिता उपलब्ध नसलेली जमीन १२८३७(१६.५९%)होती. १९९१ ते २०११ या कलावधीत अभ्यास क्षेत्रात कृषी करिता उपलब्ध नसलेली जमीन क्षेत्रात १.०७% ने वाढ झालेली आढळते.सन१९९१ मध्ये अभ्यास क्षेत्राचे एकूण क्षेत्रफळ ७७३०० हेक्टर होते तर शेती खाली नसलेली जमीन३५३०० हेक्टर (४५.६६%) सन २००१ एकूण क्षेत्रफळ ७७३३७ हेक्टर होते तर शेती खाली नसलेली जमीन २४३५२ हेक्टर (३१.३८ %) होती. सन २०११ मध्ये एकूण क्षेत्रफळ ७७३३९ हेक्टर आहे. तर शेती खाली नसलेली जमीन १०२०३ हेक्टर (१३.१९%) होते. १९९१ ते २०११ या कलावधीत अभ्यास क्षेत्रात शेती खाली नसलेली जमीन क्षेत्रात (-३२.४७%) ची घट दिसून आली. सन १९९१ मध्ये अभ्यास क्षेत्राचे एकूण क्षेत्रफळ ७७३०० हेक्टर होते तर पडीत जमीन ६०० हेक्टर (०.७७%) सन २००१ एकूण क्षेत्रफळ ७७३३७ हेक्टर होते तर पडीत जमीन ३९८८ हेक्टर (५.१५%) होती. सन २०११ मध्ये एकूण क्षेत्रफळ ७७३३९ हेक्टर होते तर पडीत जमीन ५४९ हेक्टर (०.६९%) होते. १९९१ ते २०११ या कलावधीत अभ्यास क्षेत्रात पडीत जमीनक्षेत्रात (-०.०८%) ची घट दिसून आली.सन १९९१ मध्ये अभ्यास क्षेत्राचे एकूण क्षेत्रफळ ७७३०० हेक्टर होते तर जंगल क्षेत्र ९००० हेक्टर (११.६४%) सन २००१ एकूण क्षेत्रफळ ७७३३७ हेक्टर होते तर जंगल क्षेत्र ९२३० हेक्टर (११.९३%) होती. सन २०११ मध्ये एकूण क्षेत्रफळ ७७३३९ हेक्टर होते तर जंगल क्षेत्र ८९९७ हेक्टर (११.६४%) होते. १९९१ ते २०११ या कलावधीत अभ्यास क्षेत्रात जंगल क्षेत्रात (-०.०१ %) ची घट दिसून आली.

कणकवली तालुका : कृषी भूमी उपयोजन (१९९०-९१ ते २०१०-११)

पीक प्रकार	१९९०-९१		२०००-०१		२०१०-११		१९९०-९१ ते २०१०-११ मधील % बदल
	क्षेत्र हेक्टरमध्ये	क्षेत्र %	क्षेत्र हेक्टरमध्ये	क्षेत्र %	क्षेत्र हेक्टरमध्ये	क्षेत्र %	
तृणधान्य	१३३७६	६२.३२	१३४१४	५२.०२	३३	०.२४	-६२.०८
कडधान्य	११६०	५.४०	३३१	१.४०	१४०७	१०.४६	५.०६
फळे आणि भाजीपाला	२२७५	१०.६०	७०५३	२९.९८	१०४६७	७७.८३	६७.२३
मसाल्याचे पदार्थ	१८	०.०८	०३	०.०१	१७	०.१२	०.०४
चाऱ्याची पीके	४५५२	२१.२२	२३५८	१०.०२	५३५	३.९७	-१७.२५
एकूण	२१४६२	१००%	२३५२३	१००%	१३४४३	१००%	

स्त्रोत: सिंधुदुर्ग जिल्हा जनगणनाअहवाल १९९१ २००१ सामाजिक-आर्थिक समालोचन वसांख्यिकीय अहवाल २०१०-११



कणकवली तालुका : कृषी भूमी उपयोजन (१९९०-९१ ते २०१०-११)

कणकवली तालुक्यात सन १९९१ मध्ये एकूण लागवडीखालील क्षेत्र २१४६२ होते तर तृणधान्याखालील क्षेत्र १३३७६ हेक्टर ६२.३२टक्के होते. सन २००१ मध्ये त्यात घट झाली ती १३४१४ हेक्टर ५२.०२% होती. तर २०११ मध्ये तृणधान्याखालील क्षेत्र केवळ ३३ हेक्टर ०.२४% शिल्लक राहिले. सन १९९१ ते २०११ या कलावधीत अभ्यासक्षेत्रात ६२.०८% ने तृणधान्य पिकाखालील क्षेत्राची मोठी घट दिसून येते. कणकवली तालुक्यात १९९१ मध्ये एकूण लागवडीखालील क्षेत्र २१४६२ हेक्टर होते तर कडधान्य पिकाखालील क्षेत्र ११६०, हेक्टर ५.४०% होते. सन २००१ मध्ये एकूण लागवडीखालील क्षेत्र २३५२३हेक्टर होते. तर कडधान्याखालील क्षेत्र ३३१ हेक्टर (१.४०%) होते. सन २०११ मध्ये अभ्यास क्षेत्रातील एकूण लागवडीखालील क्षेत्र १३४४३ हेक्टर होते. तर कडधान्याखालील क्षेत्र १४०७ हेक्टर १०.४६ टक्के झाले म्हणजेच १९९१ ते २०११ कलावधीत कडधान्याखालील क्षेत्रात ५.०६ टक्क्यांची सकारात्मक वाढ दिसून येते. १९९१ मध्ये एकूण लागवडीखालील क्षेत्र २१४६२ हेक्टर होते तर फळे आणि भाजीपाला खलील क्षेत्र २२७५ हेक्टर(१०.६०%) होते ते सन२००१ मध्येएकूण लागवडीखालील क्षेत्र २३५२३हेक्टर होते तर फळे आणि भाजीपाला खलील क्षेत्र ७०५३ हेक्टर २९.९८टक्के होते. सन २०११लागवडीखालील क्षेत्र १३४४३हेक्टर झाले. तर मध्ये फळे आणि भाजीपाला क्षेत्र १०४६७ हेक्टर ७७.८३टक्के झाले. १९९१ ते २०११ या कलावधीत एकूण लागवडीखालील क्षेत्रात घट झाली असली तरी फळे आणि भाजीपाला खलील जनिंनीच्या क्षेत्रात ६७.२३ टक्क्यांची लक्षणीय वाढ झालेली दिसून येते. मसाल्याची पीके सन १९९१ ते सन २०११ या कलावधीत केवळ ०.०४ टक्क्यांनी वाढली. तर चऱ्याखालील क्षेत्रात सन १०९१ ते सन २०११ दरम्यान -१७.२५ टक्क्यांनी घट झालेली दिसून येते.

निष्कर्ष –

१. अभ्यास क्षेत्रात संशोधन कलावधीत निव्वळ पीक क्षेत्र ९.१९% एवढी सकारात्मक वाढ झाली आहे.
२. कणकवली तालुक्यात संशोधन कलावधीत कृषी करिता उपलब्ध नसलेली जमीन प्रकारात १.०७% एवढी वाढ पहावयास मिळते.
३. शेती खलील नसलेली जमीन या प्रकारात अभ्यास क्षेतात संशोधन कलावधीत ३२.४७% एवढी वाढ झाली आहे.
४. अभ्यास क्षेतात पडीत जमीन प्रकारात ०.०८ एवढी वाढ दिसून येत आहे.

५. तसेच अभ्यास क्षेतात सांधोधान कलावधीत जंगला खलील क्षेत्रात -०.०१ % एवढी नकारात्मक घट झाली आहे.

६. पीक प्रारूपाच्या संदर्भात अभ्यास क्षेतात संशोधन कलावधीत कडधान्य पीक क्षेत्रात ६२.०८ % नकारात्मक घट झाली.

७. अभ्यास क्षेत्रात फळे आणि भाजीपाला पीक क्षेत्रात संशोधन काळात ६७.२३% एवढी सकारात्मक वाढ झाली आहे.

८. तसेच कधधान्य पीक क्षेत्रात संशोधन कलावधीत -५.०६ एवढी नकारात्मक घट झाली.

९. मसाल्याचे पीक क्षेतात ०.०४% एवढी वाढ पाहावयास मिळते.

१०. तर अभ्यास क्षेतात संशोधन कलावधीत चारा पिके क्षेत्रात -१७.२५% एवढी घट झाली आहे.

संदर्भ –

१. सिंधुदुर्ग जिल्हा जनगणना अहवाल १९९१
२. सिंधुदुर्ग जिल्हा जनगणना अहवाल २००१
३. सिंधुदुर्ग जिल्हा जनगणना अहवाल २०११
४. जिल्हा सामाजिक व आर्थिक समालोचन, अर्थ व सांख्याकी सांचंलनालय, महाराष्ट्र शासन, मुंबई (१९९१-९२, २०११-१२)
५. जसबीर सिंग आणि एस एस ढील्लोन : "Agricultural Geography"
६. एस डी शिंदे Agriculture is an Undeveloped Region A Geographical Survey Himalaya Publishers House.प क्र ६५ .
७. शफी एम : "Land Utilization in Eastern Uttar Pradesh" Published Ph.D. Thesis (1956) प क्र १०.
८. सिंग इंदिरा आणि साटम २००६ Agricultural geographyof India". सुमन प्रकाशन नवी दिल्ली.

बीड जिल्ह्यातील अनुसुचित जती व जमातींचे लोकसंख्या लिंगगुणोत्तर

श्री संतोष सिताराम सोंडगे[1] प्रा. डॉ. एन. के. वाघमारे[2]

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गोषवारा :

प्रस्तुत शोध निबंधामध्ये बीड जिल्ह्यातील अनुसूचित जाती व जमातींच्या लिंगगुणोत्तर वितरणाचा व तुलनात्मक बदलांचा अभ्यास केला आहे. बीड जिल्हा महाराष्ट्र राज्यातील कमी लिंगगुणोत्तर असलेला जिल्हा आहे. २०११ च्या जनगणनेनुसार जिल्ह्यात स्त्रियांचे प्रमाण १००० पुरुषमागे फक्त ९१६ एवढेच आहे. तर अनुसूचित जाती व जमातींचे लिंगगुणोत्तर प्रमाण अनुक्रमे ९५४ व ९४७ आहे. हे प्रमाण लोकसंख्या रचनेच्या व जिल्ह्याच्या विकासाच्या दृष्टीने चांगले नाही. कारण, कोणत्याही देशाचा विकास हा त्या देशातील लोकसंख्या प्रमाण आणि लोकसंख्या रचना व गुणवत्तेवर अवलंबून असतो. तसेच, स्त्री-पुरुष प्रमाणातील असमानता ही लोकसंख्या समस्या निर्मितीस कारणीभूत ठरत असते. त्यासाठी समाजामध्ये स्त्रियांना सन्मानाची वागणूक व स्थान प्राप्त होणे गरजेचे आहे. मुलगा हा वंशाचा दिवा म्हणून प्राधान्य व मुलीला दुर्लक्षित न करता दोघांनाही समाजामध्ये समान स्थान व महत्त्व देणे अत्यंत आवश्यक आहे.

१.१ प्रस्तावना :

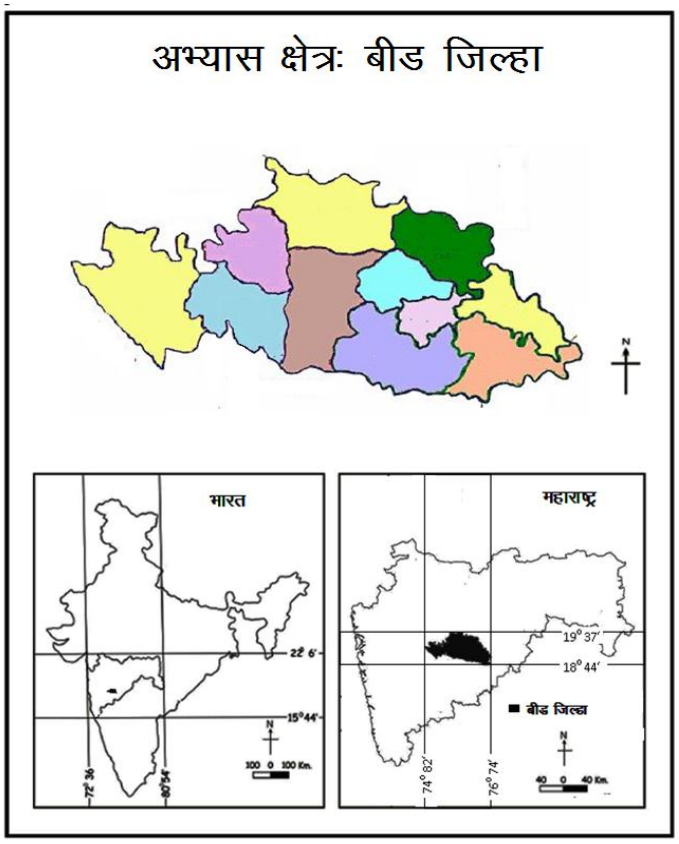
कोणत्याही देशाचा विकास हा त्या देशातील असणाऱ्या लोकसंख्येचे प्रमाण व लोकसंख्येच्या गुणवत्तेवर अवलंबून असतो. देशातील जन्मदर, मृत्युदर, स्थलांतर, स्त्री-पुरुष प्रमाण, साक्षरता या लोकसंख्येच्या अंगातील वाढती असमानता ही लोकसंख्येच्या समस्या निर्मितीस कारणीभूत ठरत असते. तेव्हा उद्भवणाऱ्या समस्या लक्षात घेता, देशातील लोकसंख्येची अद्ययावत माहिती घेणे आवश्यक असते. लोकसंख्येच्या अद्ययावत सांख्यिकीय माहितीच्या आधारे लोकसंख्येच्या असलेल्या संभाव्य समस्यांचा आढावा व भविष्यातील अचूक नियोजन करणे *शक्य होते. लोकसंख्या लिंगगुणोत्तर हा घटक लोकसंख्या अभ्यासामध्ये अत्यंत महत्त्वपूर्ण असून, लोकसंख्या लिंगगुणोत्तर म्हणजे दर हजार पुरुषांमागे स्त्रियांचे असलेले प्रमाण होय. लिंगरचना ही जीवशास्त्रीय निकषांवरुन स्पष्ट ओळखू* येणारी रचना असून सामाजिक आरोग्य संतुलनासाठी दोन्हींची (स्त्री-पुरुष) समानता आवश्यक असते.

निसर्गतः स्त्री-पुरुष प्रमाण समान ठेवण्याचा प्रयत्न केला जातो. परंतू, आजही अनेक देशामध्ये स्त्री-पुरुष प्रमाण असमान आहे. आपल्या देशात स्त्रियांचे प्रमान पुरुषांच्या तुलनेत नेहमीच कमी राहिलेले पाहावयास मिळते. महाराष्ट्र राज्यात देखील वेगळी परिस्थिती नसून विशेषतः बीड सारख्या विकासाच्या दृष्टीने मागास असलेल्या जिल्ह्यामध्ये स्त्री-पुरुष प्रमाण खूपच विषम आहे. याचा खूप मोठा परिणाम येथिल समाज व्यवस्थेवर होताना दिसत आहे.

१.२ अभ्यासक्षेत्र :

बीड जिल्ह्याचे स्थान महाराष्ट्राच्या मध्य-आग्नेयेस आहे. जिल्ह्याचा अक्षवृत्तीय विस्तार १८° २८' ते १९° २८' उत्तर असून रेखावृत्तीय विस्तार ७४° ५४' ते ७६° ५७' पूर्व आहे. जिल्ह्याच्या उत्तरेस औरंगाबाद, पूर्वेस जालना, परभणी व लातूर, दक्षिणेस उस्मानाबाद तर पश्चिमेस अहमदनगर जिल्हा आहे. जिल्ह्याचे एकूण क्षेत्रफळ १०,६९३ चौ.कि.मी. असून, जिल्ह्यामध्ये एकूण ११ तालुके आहेत. जिल्ह्यामध्ये बालाघाट पर्वतरांगेमुळे उत्तरेकडील सखल प्रदेश गंगथडी व उंचावरील प्रदेश बालाघाट असे दोन भाग पडलेले आहेत. बालाघाट विभागाची समुद्र सपाटीपासूनची उंची ६१० मी. ते ६७० मी. असून, गंगथडी विभागाची उंची ३६५ मी. ते ४५७ मी. पर्यंत आहे. जिल्ह्यातील गोदावरी ही महत्त्वाची नदी असून

गेवराई व माजलगाव तालुक्यांच्या सीमेवरुन वाहते. त्याचप्रमाणे मांजरा व सिंदफणा या जिल्ह्यातील इतर महत्त्वाच्या नद्या असून यांचा उगम पाटोदा तालुक्यातील टेकड्यांवरुन होतो. जिल्ह्याचे हवामान उष्ण व कोरडे असून, कमीत कमी तापमान १२° से. व जस्तीत जास्त तापमान ३९.६° से. एवढे आहे. २०११ च्या जनगणनेनुसार बीड जिल्ह्यातील एकूण लोकसंख्या २५,८५,०४९ एवढी आहे. साक्षरतेचे प्रमाण ७७ टक्के असून पुरुष व महिलांची टक्केवारी अनुक्रमे ८५.६ व ६७.८ एवढी आहे.



आकृती क्र. 1

१.३ उद्दिष्ट्ये :

१) बीड जिल्ह्यातील अनुसूचित जाती व जमातींचे लिंगगुणोत्तर वितरण अभ्यासणे.

२) जिल्ह्यातील अनुसूचित जाती व जमातींच्या लोकसंख्या लिंगगुणोत्तराचा तुलनात्मक अभ्यास करणे.

१.४ संशोधन पद्धती आणि माहिती संकलन :

प्रस्तुत शोध निबंध हा व्दितीयक माहितीवर आधारित आहे. माहिती संकलन करण्यासाठी व्दितीयक माहिती स्रोतांचा उपयोग केला आहे. ही माहिती जिल्हा जनगणना पुस्तिका, जिल्हा सामाजिक व आर्थिक समालोचन, गेजेटियर, भारत व महाराष्ट्र सरकारचे जनगणनेवरील अहवाल, जिल्हा सांख्यिकीय कार्यालये व इंटरनेट इ. च्या कडून संकलित करण्यात आली.

या शोध निबंधामध्ये लिंगगुणोत्तर काढण्यासाठी लिंगगुणोत्तर सुत्राचा वापर केला आहे. तसेच, आकडेवारीचे सादरीकरण करण्यासाठी विविध नकाशाशास्त्रीय पद्धतींचा उपयोग करण्यात आलेला आहे.

लिंगगुणोत्तर सूत्र:

$$= \frac{\text{बीड जिल्ह्यातील विशिष्ट कालखंडातील एकूण पुरुषांची संख्या}}{\text{बीड जिल्ह्यातील त्याच कालखंडातील एकूण स्त्रियांची संख्या}} \times १०००$$

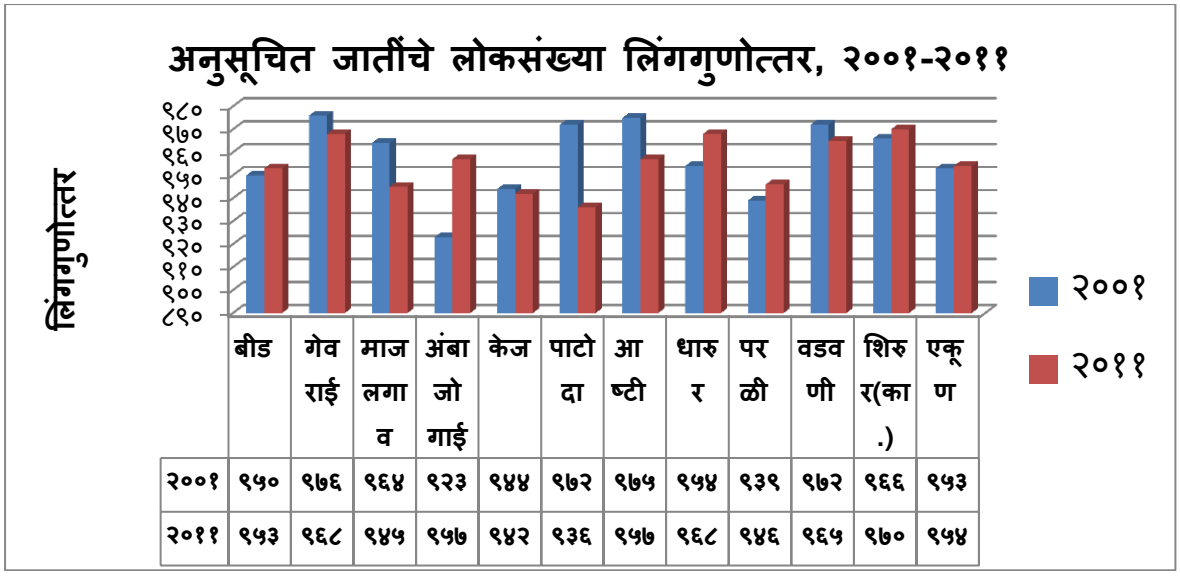
१.५ विश्लेषण :

१.५.१ बीड जिल्ह्यातील अनुसूचित जातीचे लिंगगुणोत्तर :

आकृती क्र.२ मध्ये जिल्ह्यतील अनुसूचीत जातीचे २००१ व २०११ मधील लिंगगुणोत्तर तालुकानिहाय दर्शविले आहे. २००१ च्या जनगणनेसार जिल्ह्यातील अनुसूचित जातींचे एकूण लिंगगुणोत्तर ९५३ एवढे आहे. जिल्ह्यात अनुसूचित जातीचे लिंगगुणोत्तर सर्वाधिक गेवराई तालुक्यात असून दर हजार पुरुषांमागे स्त्रियांचे प्रमाण ९७६ एवढे आहे. तर, सर्वात कमी लिंगगुणोत्तर अंबाजोगाई तालुक्यात ९२३ एवढे आहे.

२०११ च्या जनगणनेनुसार बीड जिल्ह्यातील अनुसूचित जातीचे लिंगगुणोत्तर ९५४ आहे. तर, बीड जिल्ह्याचे एकूण लिंगगुणोत्तर ९१६ एवढे आहे. म्ह्णजेच, लिंगगुणोत्तर ३८ ने अधिक आहे. २००१ च्या तुलनेत २०११ मध्ये अनुसूचित जातीच्या लिंगगुणोत्तरात १ ने धनात्मक बदल झालेला आहे (आकृती क्र.२). २०११ च्या आकडेवारीनुसार जिल्ह्यात अनुसूचित जातीचे सर्वाधिक लिंगगुणोत्तर ९७० शिरुर (का.) तालुक्यात व सर्वात कमी लिंगगुणोत्तर ९३६ पाटोदा तालुक्यात आढळते.

आकृती क्र.२: बीड जिल्ह्यातील अनुसूचित जातींचे लिंगगुणोत्तर
(२००१-२०११)



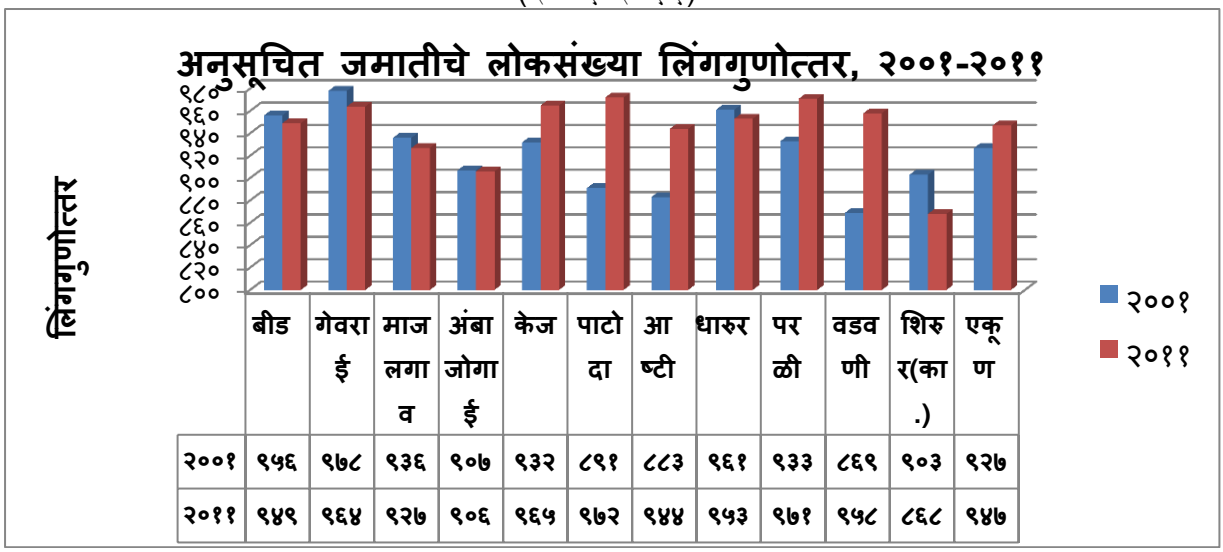
	बीड	गेवराई	माजलगाव	अंबाजोगाई	केज	पाटोदा	आष्टी	धारुर	परळी	वडवणी	शिरुर(का.)	एकूण
२००१	९५०	९७६	९६४	९२३	९४४	९७२	९७५	९५४	९३९	९७२	९६६	९५३
२०११	९५३	९६८	९४५	९५७	९४२	९३६	९५७	९६८	९४६	९६५	९७०	९५४

२००१-२०११ या दशकामध्ये अनुसूचित जातीच्या लिंगगुणोत्तरात तालुकानिहाय मोठया प्रमाणात बदल झालेला असून, सर्वाधिक धनात्मक बदल ३४ ने अंबाजोगाई तालुक्यात तर, सर्वाधिक ऋणात्मक बदल ३६ ने पाटोदा तालुक्यात झालेला आढळतो (आकृती क्र.२).

१.५.२ बीड जिल्ह्यातील अनुसूचित जमातींचे लिंगगुणोत्तर :

आकृती क्र.३ मध्ये जिल्ह्यतील अनुसूचित जमातीचे २००१ व २०११ मधील लिंगगुणोत्तर तालुकानिहाय दर्शविले आहे. २००१ च्या जनगणनेनुसार जिल्ह्यतील अनुसूचित जमातीचे लिंगगुणोत्तर ९२७ आहे. तर, जिल्ह्याचे एकूण लिंगगुणोत्तर ९३६ एवढे आहे. म्हणजेच, जिल्ह्यातील एकूण लिंगगुणोत्तरापेक्षा अनुसूचित जमातीचे लिंगगुणोत्तर ९ ने कमी आहे. जिल्ह्यात २००१ साली अनुसूचित जमातीचे सर्वाधिक ९७८ लिंगगुणोत्तर गेवराई तालुक्यात व सर्वात कमी ८६९ वडवणी तालुक्यात आढळते (आकृती क्र.३).

आकृती क्र.३: बीड जिल्ह्यातील अनुसूचित जमातीचे लिंगगुणोत्तर
(२००१-२०११)



	बीड	गेवराई	माजलगाव	अंबाजोगाई	केज	पाटोदा	आष्टी	धारुर	परळी	वडवणी	शिरुर(का.)	एकूण
२००१	९५६	९७८	९३६	९०७	९३२	८९१	८८३	९६१	९३३	८६९	९०३	९२७
२०११	९४९	९६४	९२७	९०६	९६५	९७२	९४४	९५३	९७१	९५८	८६८	९४७

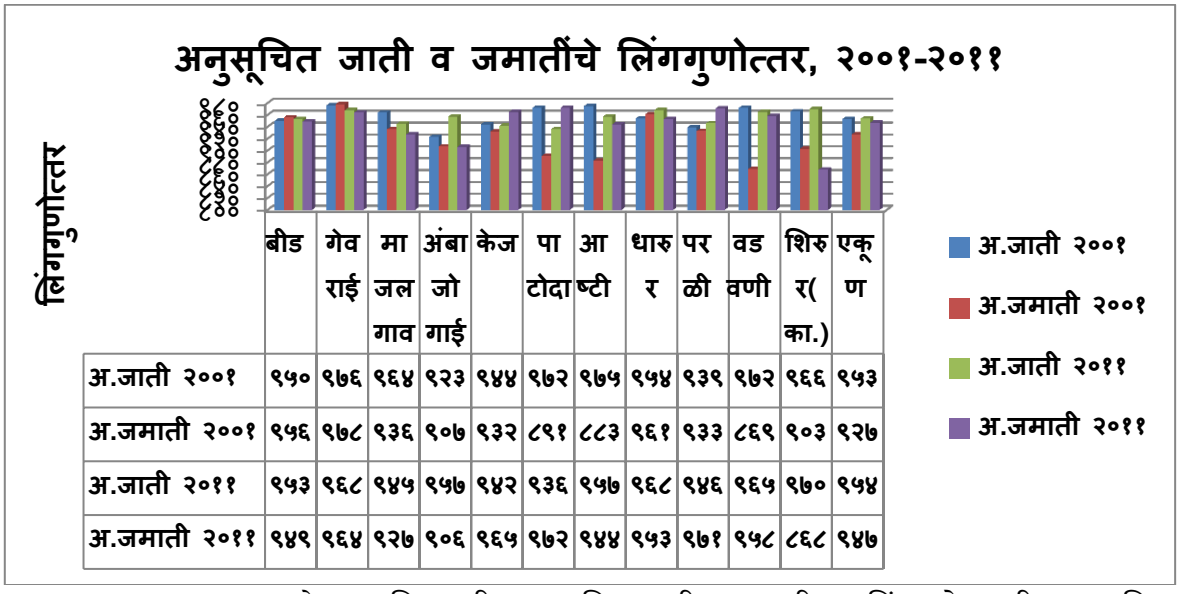
२०११ च्या जनगणनेनुसार बीड जिल्ह्यातील अनुसूचित जमातीचे लिंगगुणोत्तर ९४७ आहे. तर, जिल्ह्याचे एकूण लिंगगुणोत्तर ९१६ आहे. २०११ च्या आकडेवारीनुसार अनुसूचित जमातीचे लिंगगुणोत्तर एकूण लिंगगुणोत्तरापेक्षा ३१ ने अधिक आहे. तसेच, २००१ च्या तुलनेत २०११ मध्ये अनुसूचित जमातीच्या लिंगगुणोत्तरात २० ने धनात्मक बदल झालेला आढळतो (आकृती क्र.३). २०११ च्या आकडेवारीनुसार जिल्ह्यात अनुसूचित जमातीचे सर्वाधिक लिंगगुणोत्तर ९७२ पाटोदा तालुक्यात तर, सर्वात कमी ८६८ शिरुर (का.) तालुक्यात आढळते.

२००१ च्या तुलनेत २०११ मध्ये अनुसूचित जमातीच्या लिंगगुणोत्तरात २० ने धनात्मक बदल झाला असून, हा बदल असमान आहे. काही तालुक्यामध्ये धनात्मक तर काही तालुक्यामध्ये ऋणात्मक बदल झालेला आढळतो (आकृती क्र.३).

१.५.३ बीड जिल्ह्यातील अनुसूचित जाती व जमातींचे लिंगगुणोत्तर :

२००१ च्या जनगणनेनुसार बीड जिल्ह्यातील अनुसूचित जातीचे एकूण लिंगगुणोत्तर ९५३ एवढे आहे. तर, अनुसूचित जमातीचे लिंगगुणोत्तर ९२७ एवढे आढळते. म्हणजेच, अनुसूचित जाती व जमातीच्या लिंगगुणोत्तरातील फरक २६ असून, अनुसूचित जातीचे लिंगगुणोत्तर अनुसूचित जमातीच्या लिंगगुणोत्तरपेक्षा २६ ने अधिक आहे (आकृती क्र.४).

आकृती क्र.४ : बीड जिल्ह्यातील अनुसूचित जाती व जामातीचे लिंगगुणोत्तर, (२००१-२०११)



	बीड	गेवराई	माजलगाव	अंबाजोगाई	केज	पाटोदा	आष्टी	धारुर	परळी	वडवणी	शिरुर(का.)	एकूण
अ.जाती २००१	९५०	९७६	९६४	९२३	९४४	९७२	९७५	९५४	९३९	९७२	९६६	९५३
अ.जमाती २००१	९५६	९७८	९३६	९०७	९३२	८९१	८८३	९६१	९३३	८६९	९०३	९२७
अ.जाती २०११	९५३	९६८	९४५	९५७	९४२	९३६	९५७	९६८	९४६	९६५	९७०	९५४
अ.जमाती २०११	९४९	९६४	९२७	९०६	९६५	९७२	९४४	९५३	९७१	९५८	८६८	९४७

२००१ च्या जनगणनेनुसार जिल्ह्यातील अनुसूचित जाती व जमातीच्या लिंगगुणोत्तराची तालुकानिहाय तुलना केली असता असे दिसून येते की, अनुसूचित जातीचे लिंगगुणोत्तर अनुसूचित जमातीच्या लिंगगुणोत्तरापेक्षा माजलगाव, अंबाजोगाई, केज, पाटोदा, आष्टी, परळी, वडवणी आणि शिरुर (का.) तालुक्यात अधिक आहे. तर, बीड, गेवराई व धारुर तालुक्यात कमी असलेले पाहावयास मिळते (आकृती क्र.४).

२०११ च्या आकडेवारीनुसार जिल्ह्यातील अनुसूचित जातीचे एकूण लिंगगुणोत्तर ९५४ तर, अनुसूचित जमातीचे ९४७ एवढे आहे. म्हणजेच, अनुसूचित जातीचे लिंगगुणोत्तर अनुसूचित जमातीच्या लिंगगुणोत्तरापेक्षा ७ ने अधिक आहे. तसेच, बीड, गेवराई, माजलगाव, अंबाजोगाई, आष्टी, धारुर, वडवणी व शिरुर तालुक्यात अधिक आहे तर, केज, पाटोदा व परळी तालुक्यात कमी आहे (आकृती क्र.४).

एकूणच, २००१ ते २०११ या दशकातील अनुसूचित जाती व जमातीच्या लिंगगुणोत्तराचा अभ्यास केला असता असे दिसून येते की, २००१ च्या आकडेवारीनुसार अनुसूचित जातीचे लिंगगुणोत्तर अनुसूचित जमातीच्या तुलनेत २६ ने अधिक होते. यात २०११ मध्ये घट होऊन ७ एवढे कमी झलेले दिसून येते. याचा अर्थ असा की, अनुसूचित जातीच्या तुलनेत अनुसूचित जमातीच्या लिंगगुणोत्तरात मोठ्या प्रमाणात वाढ झालेली पाहावयास मिळते.

१.६ निष्कर्ष :

बीड जिल्ह्यातील अनुसूचित जाती व जमातीच्या लोकसंख्या लिंगगुणोत्तराचा अभ्यास केल्यानंतर असे आढळून आले की, जिल्ह्यात अनुसूचित जाती व जमातीचे लिंगगुणोत्तर वितरण सम प्रमाणात नसून काही तालुक्यांत लिंगगुणोत्तर अधिक आहे तर काही तलुक्यांत खूपच कमी आहे. लिंगगुणोत्तर वितरण असमान असण्याची अनेक

कारणे आहेत. यामध्ये प्रामुख्याने लोकांची आर्थिक, सामाजिक स्थिती, मानसिकता, शिक्षण, सांस्कृतिक जीवनपद्धती इ. घटकांचा समावेश होतो.

तसेच, अनुसूचित जाती व जमातीच्या लिंगरचनेचा अभ्यास केला असता असे आढळून आले की, जिल्ह्याच्या एकूण लिंगगुणोत्तराच्या तुलनेत अनुसूचित जातीच्या २००१ च्या लिंगगुणोत्तराचा अपवाद वगळता अनुसूचित जाती व जमातीचे लिंगगुणोत्तर प्रमाण अधिक आहे. त्याचबरोबर अनुसूचित जातीचे लिंगगुणोत्तर अनुसूचित जमातीच्या तुलनेत २००१ व २०११ मध्ये अधिक असलेले पाहावयास मिळते. २००१ च्या तुलनेत २०११ मध्ये दोन्ही जातीच्या लिंगगुणोत्तरात वाढ झालेली असून, ही वाढ अनुसूचित जातीच्या तुलनेत अनुसूचित जमातीच्या लिंगगुणोत्तरात मोठ्या प्रमाणात झालेली आढळून येते.

एकूणच, अनुसूचित जाती व जमातीच्या लिंगगुणोत्तरात २००१ च्या तुलनेत २०११ मध्ये वाढ झलेली असली तरी देखील पुरुषांच्या तुलनेत स्त्रियांचे प्रमाण खूपच कमी आहे. यामध्ये सातत्याने वाढ होणे आवश्यक आहे. जिल्ह्यात स्त्रियांचे विशेषतः मुलींचे प्रमाण वाढविण्यासाठी येथील लोकांचे उद्बोधन आणि प्रबोधन होणे गरजेचे आहे. यासाठी लोकांना समाज व समाजव्यवस्था टिकवून ठेवण्यासाठी स्त्री किंवा मुलगी जन्माला येणे किती आवश्यक आहे हे समजावून सांगणे व पटवून देणे गरजेचे आहे. यासाठी विविध स्तरावर, गावोगावी स्त्री-जागर व्याख्याने, कार्यशाळा यांचे आयोजन वेळोवेळी होणे गरजेचे आहे. स्त्रियांचे समाजामध्ये असलेले महत्त्वपूर्ण स्थान पटवून देणे आवश्यक आहे.

१.७ संदर्भ :

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2. *डॉ. विठ्ठल घारपुरे, पिंपळापुरे अॅन्ड कंपनी पब्लिशर्स, नागपूर.*
3. *बीड जिल्हा सामाजिक व आर्थिक समालोचन, २००१-२०१६.*
4. *Census of Indian, District Census Handbook Beed District, 2001 & 2011.*
5. *Gazetteer of India, Maharashtra State- Beed District.*
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लातूर जिल्हयातील तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील जलसिंचनाच्या तीव्रतेचा भौगोलिक अभ्यास

प्रा.डॉ.ए.ए. काळगापुरे

भूगोल विभागप्रमुख, श्री हावगीस्वामी महाविद्यालय, उदगीर जि.लातूर

प्रस्तावना

प्राचीन भारतात आर्यकाळामध्ये कालवे व विहिरी, बौद्ध व जैन काळात नद्यांवर धरणे व तलाव, चालुक्यांनी तळे व बारव, राष्ट्रकुटांनी मोठे तलाव बांधले आहेत. मुस्लीम राज्यकर्त्यांनी रहाटगाडे, चरखा व कालवे या पद्धतीला चालना दिली आहे. महाराष्ट्रात कृष्णदेवराय यांनी कोरंगळ येथे बांध बांधला होता, तर तापी नदीखोऱ्यात फड सिंचन पद्धत अस्तित्त्वात होती. मध्ययुगीन काळात बीड जिल्ह्यातील खजाना विहीर, भंडारा तलाव, छत्रपती शिवाजी महाराजांनी रायगडावर तयार केलेला गंगासागर तलाव, शाहू महाराजांनी कोल्हापुरी पद्धतीचे बंधारे तसेच मोटेद्वारे जलसिंचन केले होते. ब्रिटिशांच्या काळात मग मोठमोठी धरणे बांधण्यास सुरुवात झाली; परंतु स्वातंत्र्योत्तर कालावधीत शेतीचा विकास करण्यासाठी वेगवेगळ्या पंचवार्षिक योजनांच्या माध्यमातून मोठी धरणे उभा करण्यात आली व कालव्यांच्या मार्फत जलसिंचन सुरू झाले. तसेच विहिरी, तलाव, कूपनलिका यामार्फतही जलसिंचनास सुरुवात झाली; परंतु सद्यस्थितीला उपसा जलसिंचनाला यांत्रिकता प्राप्त झाली. त्यामुळे अनेक लहान-मोठ्या उपसा जलसिंचन योजना निर्माण झाल्या.

अभ्यास क्षेत्र

तिरु प्रकल्प हा लातूर जिल्ह्याच्या दक्षिण पूर्व भागात असून बालाघाट डोंगररांगेच्या प्रभाव क्षेत्रात गोदावरी खोऱ्यात आहे. या प्रकल्पाचा अक्षवृत्तीय विस्तार $18^0$34’ उत्तर अक्षांश ते $77^0$77’ पूर्व रेखावृत्तावर स्थित आहे. हा प्रकल्प मांजरा उपखोऱ्यात असून मातीच्या धरण प्रकारात मोडतो. धरणाची एकूण लांबी 1990 मी. तर सांडव्याची लांबी 431 मी आहे. या प्रकल्पाने या क्षेत्रात आपला एक वेगळा ठसा उमटवला आहे. म्हणून याच प्रकल्प प्रभावक्षेत्रातील जलसिंचन तीव्रतेचा अभ्यास प्रस्तुत शोधनिबंधातून करण्यात आला आहे.

उद्दिष्ट : तिरु जलसिंचन प्रकल्प प्रभाव क्षेत्रातील जलसिंचन तीव्रतेचा भौगोलिक अभ्यास करणे हे प्रमुख उद्दिष्ट समोर ठेवून प्रस्तुत शोधनिबंध लिहिला आहे.

संशोधन पद्धती

प्रस्तुत शोधनिबंध दुय्यम स्वरूपाच्या आकडेवारीवर आधारित आहे. ही आकडेवारी जिल्हा जनगणना व महाराष्ट्र जनगणना अहवालावर आधारलेली आहे. तसेच सामाजिक व आर्थिक समालोचन लातूर जिल्हा, लातूर पाटबंधारे विभाग आणि विविध संकेतस्थळे यांचा आधार घेतलेला आहे.

तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील जलसिंचनाची तीव्रता :

निव्वळ पीक क्षेत्राशी निव्वळ जलसिंचित क्षेत्राचे असलेले शेकडा प्रमाण म्हणजे जलसिंचन तीव्रता होय. जलसिंचन तीव्रता काढण्यासाठी पी. एम. शर्मा यांच्या खालील सूत्राचा वापर करण्यात आला आहे.

$$\text{जलसिंचन तीव्रता} = \frac{\text{एकूण जलसिंचित क्षेत्र}}{\text{एकूण शेतीखालील क्षेत्र}} \times 100$$

जलसिंचनाच्या तीव्रतेचा संबंध त्या प्रदेशाच्या प्रादेशिक रचनेशी येतो. मैदानी व सपाट प्रदेश असेल तर जलसिंचनाची तीव्रता जास्त असते. याउलट उंच-सखल भाग, पर्वतीय प्रदेश, ओबडधोबड प्रदेश असेल तर जलसिंचनाची तीव्रता कमी असते. जलसिंचनाची तीव्रता काढताना एकूण जलसिंचित क्षेत्राचे एकूण शेतीत खालील क्षेत्राशी शेकडा प्रमाणाचा विचार करावा लागतो.

जलसिंचन तीव्रता (सन 1990-91)

तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील सन 1990-91 या कालावधीतील जलसिंचनाची तीव्रता खालील सारणीच्या मार्फत दाखविण्यात आली आहे.

सारणी क्र.1, तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील जलसिंचनाची तीव्रता (सन 1990-91)

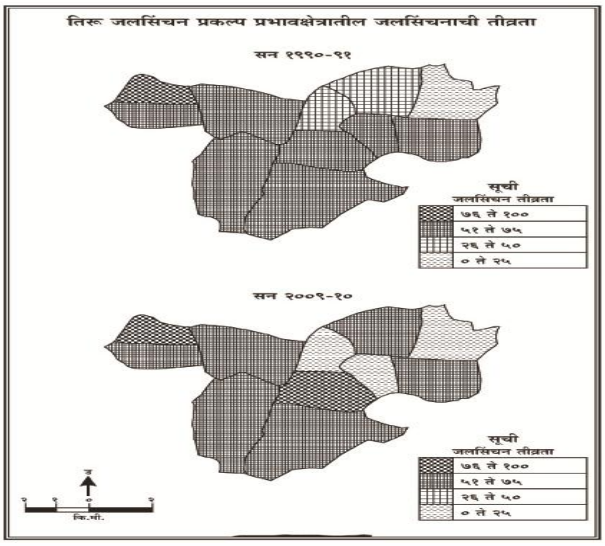
अ.क्र.	गावाचे नाव	लागवडीखालील क्षेत्र (हे.)	जलसिंचनाखालील क्षेत्र (हे.)	जलसिंचनाची तीव्रता (टक्के)
1	वाढवणा (बु.)	1350	710	52.59
2	वाढवणा (खु.)	940	560	59.57
3	लाळी (बु.)	380	204	53.68
4	लाळी (खु.)	190	52	27.36
5	बेळसांगवी	300	142	47.33
6	शिवणखेड	792	522	65.90
7	येवरी	184	61	33.15
8	सोनवळा	268	65	24.25
9	मंगरुळ	630	386	61.26
10	मोर्तळवाडी	310	189	60.96
11	चिमाचीवाडी	528	422	79.92
	एकूण	5872	3313	56.42

स्रोत – पाटबंधारे सिंचन शाखा, वाढवणा (बु.)

तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील जलसिंचन तीव्रता (1990-91) चा अभ्यास करताना सारणी क्र. 1 व नकाशा क्र. 1 वरून खालील गटविभागणी करण्यात आली आहे.

1) कमी जलसिंचन तीव्रता (0 ते 25 टक्के)

तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील जळकोट तालुक्यातील काही भाग डोंगराळ व उंचसखल आहे. यात सोनवळा गावाचा समावेश होतो. म्हणून येथील जलसिंचन तीव्रता कमी आहे. सोनवळा गावाची जलसिंचन तीव्रता 24.25 टक्के एवढी आहे.



स्रोत – संशोधकाने संकलित केलेल्या माहितीवर आधारित

2) मध्यम जलसिंचन तीव्रता (25 ते 50 टक्के)

तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील लाळी (खु.) व येवरी या दोन गावांचा समावेश या गटात होतो. येवरी व लाळी (खु.) ही दोन्ही गावे जळकोट तालुक्यातील आहेत. लाळी (खु.) या गावाची जलसिंचन तीव्रता 27.36 टक्के तर येवरी या गावाची जलसिंचन तीव्रता 33.15 टक्के एवढी आहे. म्हणजेच या वरील दोन्ही गावांचा समावेश जलसिंचन तीव्रतेच्या मध्यम जलसिंचन तीव्रता गटात होतो.

3) जास्त जलसिंचन तीव्रता (50 ते 75 टक्के)

तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील जास्त जलसिंचन तीव्रता गटात एकूण 07 गावांचा समावेश होतो. यात वाढवणा (बु.), वाढवणा (खु.), लाळी (बु.), शिवणखेड, बेळसांगवी, मंगरुळ, मोर्तळवाडी इत्यादी आहेत. हया गावांचा प्रदेश सखल व मैदानी स्वरूपाचा आहे. यामुळे जलसिंचन क्षेत्र जास्त आहे. म्हणून या गावांचा समावेश जास्त जलसिंचन तीव्रता गटात होतो.

4) अति जास्त जलसिंचन तीव्रता (75 ते 100 टक्के)

तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील सर्वात जास्त जलसिंचन तीव्रता चिमाचीवाडी (79.92) या गावात आढळते. कारण या गावाचे संपूर्ण प्रभावक्षेत्र तलावाच्या अगदी जवळ आहे. म्हणून येथील जलसिंचन क्षेत्र जास्त जवळ आहे. त्यामुळे जलसिंचनाची तीव्रता अतिजास्त असल्याचे दिसून येते.

जलसिंचन तीव्रता (सन 2009-10)

तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील सन 2009-10 या कालावधीतील जलसिंचनाची तीव्रता खालील सारणीच्या मार्फत दाखविण्यात आली आहे.

सारणी क्र.2, तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील जलसिंचनाची तीव्रता (सन 2009-10)

अ.क्र.	गावाचे नाव	लागवडीखालील क्षेत्र (हे.)	जलसिंचनाखालील क्षेत्र (हे.)	जलसिंचनाची तीव्रता (टक्के)
1	वाढवणा (बु.)	1465	802	54.74
2	वाढवणा (खु.)	1056	610	57.76
3	लाळी (बु.)	484	210	43.38
4	लाळी (खु.)	216	136	62.96
5	बेळसांगवी	304	230	75.65
6	शिवणखेड	890	563	63.25
7	येवरी	233	108	46.35
8	सोनवळा	348	78	22.41
9	मंगरुळ	698	408	58.45
10	मोर्तळवाडी	330	206	62.42
11	चिमाचीवाडी	535	439	82.05
	एकूण	6559	3791	57.79

स्रोत – पाटबंधारे सिंचन शाखा, वाढवणा (बु.)

तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील जलसिंचन तीव्रता (2009-10) चा अभ्यास करताना सारणी क्र.2 वरून खालील गटविभागणी करण्यात आली आहे.

1) कमी जलसिंचन तीव्रता (0 ते 25 टक्के)

तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील जळकोट हा तालुका डोंगराळग्रस्त प्रदेशात येतो. म्हणून जलसिंचनाच्या साधनांचा तेवढासा विकास झालेला नाही. म्हणून सोनवळा या गावाची जलसिंचन तीव्रता कमी आहे. या गावाची जलसिंचन तीव्रता 22.41 टक्के एवढी आहे.

2) मध्यम जलसिंचन तीव्रता (25 ते 50 टक्के)

मध्यम जलसिंचन तीव्रता गटात लाळी (बु.), येवरी या दोन गावांचा समावेश होतो. ही गावे जळकोट तालुक्यातील असली तरी ती सखल प्रदेशात मोडतात. म्हणून जलसिंचन तीव्रता मध्यम आहे. लाळी (बु.) या गावाची जलसिंचन तीव्रता 43.38 टक्के एवढी तर येवरी या गावाची जलसिंचन तीव्रता 46.35 टक्के एवढी आहे.

3) जास्त जलसिंचन तीव्रता (50 ते 75 टक्के)

तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील जास्त जलसिंचन तीव्रता गटात एकूण ६ गावांचा समावेश होतो. यात वाढवणा (बु.), वाढवणा (खु.), शिवणखेड, मंगरुळ, मोर्तळवाडी इत्यादी गावे आहेत. या गावांचा प्रदेश मैदानी, सखल व सपाट स्वरूपाचा असल्याने जलसिंचन क्षेत्रा जास्त आढळते. म्हणून या गावांची जलसिंचन तीव्रता जास्त आहे.

4) अति जास्त जलसिंचन तीव्रता (75 ते 100 टक्के)

तिरू जलसिंचन प्रकल्प प्रभावक्षेत्रातील अतिजास्त किंवा सर्वात जास्त जलसिंचन तीव्रता चिमाचीवाडी (82.05) या गावाची असून दुसरा क्रमांक बेळसांगवी या गावाचा (75.65) लागतो. चिमाचीवाडी हे गाव तिरु जलसिंचन प्रकल्पाला लागून असल्यामुळे या गावाची जलसिंचन तीव्रता अतिजास्त आहे. तर बेळसांगवी या गावातून या प्रकल्पाचे डावे व उजवे असे दोन्ही कालवे जातात. म्हणून या गावाची जलसिंचन तीव्रता अतिजास्त आहे.

निष्कर्ष

तिरु जलसिंचन प्रकल्प प्रभावक्षेत्रातील जलसिंचन तीव्रता (1990-91) व (2009-10) सर्वात जास्त चिमाचीवाडी या गावात असून सर्वात कमी जलसिंचन तीव्रता सोनवळा या गावाची आहे.

संदर्भ

1) ढमढेरे एस.व्ही. (2009), महाराष्ट्रातील जलसंपदा, डायमंड पब्लिकेशन्स, पुणे

2) लातूर पाटबंधारे विभाग, लातूर (1990-91 ते 2009-10)

3) पवार व्ही.टी. (2017), ताकरी म्हैसाळ उपसा जलसिंचन योजनेचा सांगली जिल्हयातील कृषी भूमी उपयोजनाचा झालेल्या परिणामाचा एक भौगोलिक अभ्यास, अप्रकाशित पीएच.डी. शोधप्रबंध, स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

4) www.latur.nic.in

सुभाषचंद्र बोस यांचा स्वातंत्र्य चळवळीतील प्रवास

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कटक मधील नामवंत वकील जानकीनाथ बोस यांचे सूभाष हे आठवे पुत्र. आय.सी.एस.ची परीक्षा सर्व विद्यार्थ्यामध्ये चवथ्या क्रमांकाने पास झाले. सर्व प्रकारचे सुखविलास, ऐश्वर्य, मान सन्मान देणाऱ्या त्या सर्वोच्च अधिकाराच्या नोकरीवर लाथ मारून सुभाषबाबू इंग्लंड हून भारतात परतले. १६ जुलै १९२१ या दिवशी सुभाषबाबू मुंबईला पोहचले यावेळी महात्मा गांधी मुंबई मध्ये होते. त्यामुळे सुभाषबाबूनी मुंबई मधेच गांधींजी ची भेट घेतली व नंतर कोलकत्ता येथे देशबंधू चित्तरंजन दास यांची हि भेट घेतली व आपल्या कामाची पुढील दिशा ठरवली.

१९३९ मध्ये कॉंग्रेस चे अधिवेशन त्रिपुरा येथे भरणार होते. गांधीजींनी अध्यक्ष पदासाठी कॉंग्रेस चा उमेदवार म्हणून पट्टाभी सीतारामय्या यांना उभे केले होते. आणि यावेळी विरोधक म्हणून दुसरे कोणी नसल्याने सुभाषबाबू स्वतः उभे राहिले आणि ह लढत गांधींजी विरुद्ध सुभाषबाबू अशीच झाली. यावेळी गांधींच्या पाठीमागे सर्व अनुयायी असून सुद्धा त्यांचे उमेदवार पट्टाभी सीतारामय्या पराभूत झाले. व सुभाषबाबू विजयी झाले. हा पराभव पट्टाभीचा नसून तो माझा आहे असे गांधींजीनी मानले व येथून पुढे स्वातंत्र्ययुद्धा संबंधी गांधींजीशी सुभाषबाबुंची मतभिन्नता वाढत गेली त्यानंतर सुभाषबाबूनी फॉरवर्ड ब्लॉक आघाडी स्थापन केली.

याच दरम्यान १९३९ च्या सप्टेंबर मध्ये इंग्लंड व जर्मनी या दोन देशात युद्ध सुरु झाले आणि यावेळी देशात स्वराज्य मिळविण्यासाठी इंग्रजांच्या शत्रूंचे सहकार्य आपणास मिळेल का यावर सुभाषबाबू विचार करू लागले. या कामासाठी ते देश सोडून जाण्याचा मार्ग ते शोधू लागले कारण ते युरोपात राहिले होते. त्या ठिकाणच्या परिस्थितीचा त्यांनी चांगला अभ्यास केला होता. क्रांतिकारक विचारांचा स्वातंत्र्य सेनानी म्हणून ब्रिटीश पोलिसांनी त्यांच्या घरावर पाळत ठेवलेली होती. तसे पहिले तर त्याच्या अगोदर सुभाषबाबूना वेगवेगळ्या कारणानी कमीतकमी दहा वेळा कारावास झाला होता. आता त्यांच्यावर पुन्हा खटला चालवायचा आणि त्यांना जन्मठेपेची शिक्षा द्यायची असा इंग्रजांचा बेत होता आणि जन्मठेपेने आपले आयुष्य पूर्ण वाया जाणार हे सुभाषबाबूना दिसत होते. म्हणून त्यांनी भारत देश सोडायचा निर्णय घेतला आणि त्यांनी अज्ञातवास स्वीकारला आपल्या घरीच राहून त्यांनी दाढी वाढवली, पुतण्याला सांगून पठाणाचा पोशाख मागवला व देश सोडून कसे जायचे याचा मार्ग निश्चित केला. १६ जानेवारी १९४१ रोजी मध्यरात्री आईचे दर्शन घेवून पठाणाच्या वेशात सुभाषबाबू घराबाहेर पडले. पुतण्या शिशिर गाडी चालवीत होता गाडी वराडीला पोचली तिथे अशोक्नाथ याची भेट घेतली अनि पुढे रवाना झाले पूर्णता गुप्तता पाळण्यात आली त्यांनी आपले नाव महम्मद ठेवले होते दिल्ली मधील मोठे स्टेशन वगळून गेले इकडे घरी सुभाशबाबुनाबुंच्या खोलीतील जेवणाचे ताट तसेच राहिले होते मग सगळीकडे शोधाशोध सुरु झाली आणि दुसऱ्या दिवशी कोलकत्ता हिंदुस्तान मध्ये पहिल्या पानावर बातमी प्रसिद्ध झाली सुभाषबाबू यांचे काय झाले घरातून अनपेक्षित प्रयाण आणि सुभाषबाबू यांच्या जाण्याने संपूर्ण देशात थरार झाला. रवींद्रनाथ टागोर, आणि महात्मा गांधी यांच्या सारख्या मोठ्या व्यक्तींना चिंता लागून राहिली, तोपर्यंत एक विमा एजंट अशी ओळख सांगणारे सुभाषबाबू पेशावरला पोहचले. तिथून काबूलला जायचे होते त्यांनी भगतराम तळावर हा भारत नवजवान सभेचा कार्यकर्ता सुभाषबाबुना घेऊन पुढे निघाला सुभाष बाबुना पुश्तु भाषा येत नव्हती म्हणून त्यांनी मुक्याचे सोंग घेतले जे बोलायचे ते भगतरामणेच. सोबत अबदखानही होता ठिकठिकाणी ब्रिटीश छावण्या होत्या प्रत्येक ठिकाणी भगतराम आणि अबदखान उत्तरे द्यायचे. पूर्ण पुश्तु पोशाखातील सुभाषबाबू अगदी अस्सल पठाण दिसत होते आणि एक ठिकाण आले तिथे हिंदुस्थान ची सीमा संपली सुभाषबाबुनी त्याठिकाण ची माती कपाळाला लावली आणि पुढची वाट ते चालू लागले. कधी माल मोटारीतून तर कधी खेचरावरून तर कधी चालत असा खडतर प्रवास सुरु झाला असे करत करत ते अफगाणीस्तान ला पोहचले. एक टप्पा पूर्ण झला होता. संपूर्ण जगभर महायुद्धाचे वातावरण असल्याने सगळीकडे धोका दिसत होता म्हणून भगतराम ने रहमत खान हे नव धारण केले होते. तिथे सुभाषबाबु जर्मन वकालीत गेले हे सुभाषबाबु आहेत हे ऐकून जर्मन वकालीत आश्चर्य वाटले. पूर्वी सुभाषबाबु जर्मनीला गेले तेव्हा ते पररा्ष्ट्रमंत्री यांना भेटले होते तो संदर्भ आला बर्लिन ला जायचे निश्चित झाले त्यांना तिकडे जायची व्यवस्था इटालियन वकालीतीकडून करणायत आली. यावेळी सुभाषबाबुनी नवीन नाव धारण केले. त्या नावाचे पारपत्र त्यांना देण्यात आले दोन दिवसाच्या प्रवासानंतर ते समरकंद ला पोहचले तिथुन मास्को, दोन दिवसांनी ते विमानाने बर्लिनला पोहचले. सुभाषबाबुनी त्याठिकाणी स्वतंत्र हिंदुस्थान केंद्र स्थापन केले. जर्मनीने दहा लाख मार्क्सचा धनादेश

सुभाषबाबुना दिला याच केंद्राचे नव आझाद हिंद केंद्र असे झाले. ६ नोव्हेंबर १९४१ या दिवशी केंद्राची बैठक झाली याच बैठकीत जय हिंद हा पहिला नारा देण्यात आला.

त्यातूनच पुढे सुभाषबाबुना नेताजी म्हंटले जावू लागले आझाद हिंद सेनेसाठी सैनिक मिळवण्याची तयारी सुरु झाली. हिटलरची परवानगी मिळाली. युद्धकैद्यामधून सेनेची उभारणी होवू लागली. २६ जानेवारी २९३० या दिवशी भारतात संपूर्ण स्वातंत्र्याची घोषणा करण्यात आली होती. तिचा पुनरुच्चार करणात आला. मूळ प्रतिज्ञेतील अहिंसक मार्गाने हे शब्द मात्र वगळण्यात आले. १९४२ मध्ये आझाद हिंद नभोवाणी केंद्र सुरूर झाले. सुभाषबाबुनी आपल्या धीर गंभीर आवाजात भाषण दिले, होय मी सूभाषचंद्र बोस बोलत आहे. मी ज्याची वाट पाहत होतो तो क्षण आता आलेला आहे. हिंदुस्तानच्या दृष्टीने नवयुगाची पाहत भारतात चैतन्याची लाट उसळली. आझाद हिंद सेनेत सैनिक जमा होवू लागले, त्यांचे प्रशिक्षिण सुरु झाले ऐके दिवशी सुभाषबाबुची हिट्लरची भेट झाली त्यावेळी हिटलरने सुभाषबाबुना प्रश्न विचारला. भारत स्वतंत्र झाल्यानंतर तुम्ही पंतप्रधान होणार आहात काय? सुभाषबाबु उत्तरले नाही. स्वतंत्र भारताचा पंतप्रधान देशाची जनता निवडणुकीच्या माध्यमातून ठरवेल.

मात्र भारतीय स्वातंत्र्यासाठी थेट सहकार्य करण्यास हिटलरने असमर्थता व्यक्त केली आणि सुभाषबाबुना जपानला जायची सूचना केली. जपानला जाण्यासाठी लहानश्या पाणबुडीतून जाण्याशिवाय दुसरा पर्याय नव्हता त्यांच्या बरीबर फक्त एकालाच जाता येणार होते त्यांनी आदिब हसन यांची निवड केली, बसायची अगदी अपुरी जागा, नित उभे हि राहता येत नव्हते. युरोप खंडाच्या एक टोकापासून आशिया खंडाच्या दुसऱ्या तोकापार्यंत अत्यंत धोक्याचा समुद्राखालचा प्रवास ८ फ्रेब्रुवारी ते १६ मे अत्यंत गुप्तपणे सुभाषबाबु टोकियोला येवून पोहचले. तिथे रास बिहारी बोस त्यांच्या समोर आले. आझाद हिंद सेनेच ते अग्रदूत त्यांच्या कडून आझाद हिंद सेनेचे सूत्रे सुभाषबाबुच्या हती आली त्यांनी सेनेसमोर भाषण करून त्यांना युद्धासाठी प्रोत्साहित केले, असंख्य महिलाही आझाद हिंद सेनेत येण्याची इच्छा व्यक्त केली त्यांच्यासाठी झाशी राणी पथक निर्माण केले.

सुभाषबाबुनी आझाद हिंद सरकारचे मंत्रिमंडळ जाहीर केले त्यांच्या अनेक ठिकाणी सभा होवू लागल्या. आझाद हिंद रेडीओ च्या रंगून केंद्रावरून ६ जुलै १९४४ या दिवशी सुभाषबाबुनी महात्मा गांधी ना उद्देशून भाषण केले.

हे राष्ट्रिपत्या, आम्हाला लढण्यासाठी आशीर्वाद द्या, सारा देश विस्मयचकित झाला. ज्या गांधीजींशी वैचारिक मतभेद होते. त्यांनाच सुभाषबाबुनी राष्ट्रपिता असे संबोधले होते. आझाद हिंद सेनेची युध्दमोहीम सुरु झाली. भारताच्या सिमेपर्येंत धडक देण्यासाठी सेना वाटचाल करायला लागली एका महापराक्रमासाठी तिने झेप घेतली.

संदर्भ -

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३. विठल राम भट , "नेताजी सुभाषचंद्र बोस", मनोविकास प्रकाशन नागपूर

आद्य समाजसुधारक राजाराम मोहन रॉय

प्रा. माणिकराव शामराव चव्हाण

सहाय्यक प्राध्यापक, इतिहास विभाग, क्रांतिअग्रणी जी. डी. बापू लाड महाविदयालय, कुंडल

राजाराम मोहन रॉय यांना आधुनिक भारतीय विचारांचे जनक म्हणतात. ते अनेक बाबतीत सत्य आहे. देशातील सर्वांगीण लोक जागृतीसाठी त्यांनी एक नवा विचार व कार्य पद्धती समाजाला दिली. पाश्चिमात्य संस्कृती आणि भारतीय परंपरा यांचा मिलाप त्यांच्या विचारात आणि कार्य पद्धतीत पहावयास मिळतो. भारतात सामाजिक, धार्मिक, राजकीय अंगाची पुनर्रचना झाली पाहिजे आस त्यांनी नेहमी आग्रह धरला. बंगाल हे त्यांचे मूळ कार्यक्षेत्र पण नंतर संपूर्ण देशानेच त्यांचे पासून प्रेरणा घेतली. त्यांच्या नंतर देशात राजकीय व मवाळ आणि नेमस्त सुधारकांची एक प्रदीर्घ मालिकाच निर्माण झाली. नंतरच्या काळात भारतातील विचारवंताच्यावर राजाराम मोहन रॉय यांच्या विचारांची छाप पडल्याचे दिसते.

राजाराम मोहन रॉय यांचे अल्प परिचय

नवभारतातील पहिले महान सुधारक व ब्राह्मो समाजाचे संस्थापक राजाराम मोहन रॉय यांचा जन्म बंगालमधील राधानगर जिल्हा हुगळी या गावी एका कर्मठ ब्राह्मण कुटुंबामध्ये १७७२ मध्ये झाला. त्यांचे पणजोबा व आजोबा बंगालच्या नवाबाच्या दरबारात मोठ्या हुद्यावर होते. त्यामुळे नवाबाने त्यांना रॉय हा सन्मान दर्शक किताब दिला. ते रॉय हेच त्या घराण्याचे पुढे आडनाव झाले.

त्यांचे शिक्षण परंपरागत भारतीय पद्धतीनेच झाले परंतु त्यांनी बंगाली, फारशी, व संस्कृत या भाषांचे प्राथमिक शिक्षण घरीच घेतले व नंतर अरबी व फारशी भाषांचे उच्च शिक्षण त्यांनी पाटण्यास घेतले. पुढे बनारस ला जावून त्यांनी संस्कृत वेदपुराण याचा अभ्यास केला. तेव्हा जगात देव एकच असून निरनिराळे देव कल्पून वेगवेगळया मूर्तींची पूजा करणे हे केवळ अज्ञान आहे हि गोष्ट त्यांना कळून आली. हे घरातील लोकांना त्यांनी ज्यावेळी बोलून दाखवले त्यावेळी घरातील लोकांनी त्यांना घरातून बाहेर घालवले. त्यावेळी ते बौध्द धर्माचा अभ्यास करण्यासाठी तिबेट ला गेले, त्या निमित्ताने ते संपूर्ण भारतभर फिरले या प्रवासात त्यांना विविध अनुभव आले. इ.स. १८०५ मध्ये त्यांनी इस्ट इंडिया कंपनीत नोकरीस होते परंतु धार्मिक सुधारणाच्या कार्याने प्रेरित झालेल्या राजाराम मोहन रॉय यांचे नोकरीत मन रमले नाही. तेव्हा इ.स. १८१४ मध्ये त्यांनी नोकरी सोडली व ते कलकत्त्यास राहायला आले. व तेथे अनेक विद्वान मंडळीशी परिचय होवून ख्रिस्ती मिशन यांच्या धर्मविषयक कार्याने ते प्रभावित झाले. इ.स. १८१५ मध्ये राजाराम मोहन रॉय यांनी हिंदू धर्मात सुधारणा करण्यासाठी प्रयत्न सुरु केला. त्यासाठी त्यांनी प्रथम आत्मेय सभेची स्थापना केली. या सभेतूनच पुढे ब्राम्हो समाजाची स्थापना केली. आत्मीय सभेत माध्यम व कनिष्ठ वर्गाचे लोक होते. ब्राम्हो समाज एकच परमेश्वराची पूजा, बंधुभाव, आणि मानवता मानतो. सर्व धर्माबद्दल आदरभाव हे या धर्माचे वैशिष्ठ होय. रॉय यांनी मोठ्या जिद्दीने ब्राम्हो समाजाची शिकवण समाजापुढे मांडली. इ.स. १८१८ नंतर सतीच्या प्रथेविरुद्ध चळवळ सुरु केली या शिवाय पडदा पद्धत व विधवा पुनर्विवाह व स्त्रियांच्या महाविद्यालयीन शिक्षणाला त्यांनी प्रोत्साहन दिले.

धर्मविषयक विचार

राजाराम मोहन रॉय यांचे धर्म विषयक विचार अनेक धर्माच्या अभ्यासातून घडलेले होते. कुराणातील एकेश्वरवादाची संकल्पना त्यांना विशेष आवडे शिवाय आध्यामिक ते उपनिषदातील अदैत्ववादाकडे आकर्षित झालेले होते. तत्वज्ञानाच्या क्षेत्रात आणि तत्वमिमांसेच्या काळातील परंगतेचा अभाव यामुळे राजाराम मोहन रॉय अदैत्ववाद आणि एकेश्वरवाद यातील भेट सूक्ष्मपणे जणू शकले नाहीत.

ईश्वरविषयक संकल्पना -

ईश्वराचे स्वरूप स्पष्ट करणे हे कठीण काम आहे असे ते म्हणतात. ते मानवी आकलन शक्तीच्या पलीकडे आहे. ईश्वर हे एक चिरंतन अपराजित आणि अनाकलनीय असे अस्तित्व असून तेच संपूर्ण विश्वाचे निर्माण करते व रक्षणकर्ते आहेत. ईश्वराचे रूप अवर्णनीय आहे असे आम्ही म्हणतो तेव्हा त्याचे स्वरूप मानवी आकलनशक्तीत येत नाही. एवढाच याचा अर्थ जड अस्तीत्वात घडामोडीतून या अलौकिक शक्तीच्या अस्तित्वाची आम्हास सदैव प्रचीती येते. झाडांच्या पानासारखा क्षुल्लक वस्तूची रचना आणि त्याची वाढ या गोष्टी सुद्धा ईश्वराच्या अस्तित्वाची साक्ष देऊ शकतात. ईश्वर हा एकच आहे तो सर्वव्यापी असून विश्वाचे नियंत्रण करतो. हे विश्व जसे अफाट आहे आणि त्याच्या रचनेत जसे आरपार कौशल्य आहे त्याच प्रमाणे त्याच चैतन्य देणारा आत्मा हि अनंत आणि परिपूर्ण असला पाहिजे. राजाराम मोहन रॉय यांच्या ईश्वर विषयक या संकल्पनेत अदैत्ववाद आणि एकेश्वरवादाचा मिलाप स्पष्टपणे पहावयास मिळतो.

सामाजिक सुधारणा -

धर्मातील विकृती समाजाच्या अंधः पतनास कारणीभूत होतात. कारण असा धर्म अमानुष आणि घटक रूढी परंपराचे पोषण करतो अशी राजाराम मोहन रॉय यांची धारणा होती. ते धर्म सुधारणेस प्रवृत्त झाले त्याचे हे एक कारण आहे. पाश्चिमात्य संस्कृतीचा संपर्क आणि ख्रिस्ती मिशन यांचेकडून हिंदू धर्मावर होणाऱ्या नित्य हल्ल्यामुळे करून मनाची होणारी दिशाहीन फरपट थांबवणे हा या मागील दुसरा उद्देश होता. तेव्हा धर्म विषयक निश्चित भूमिका घेवून राजाराम मोहन रॉय समाज सुधारणेकडे वळतात याच धार्मिक भूमिकेतून ते समजातील अनेक अनिष्ठ रूढी परंपरावर कडाडून हल्ला करतात.

स्त्री विषयक कार्य -

भारतीय स्त्रीची या काळातील स्थिती अतिशय भयंक होती. भारतीय स्त्रियांचा प्रश्न अनेक अपसमजुतीनी अधिकच गुंतागुंतीचा झाला होता. कारण या अपसमजुतींना धार्मिकतेचा आधार दिल्यामुळे त्या अपसमजुती घालवणे फार कठीण काम होते आणि हे सारेच प्रश्न एकमेकांशी निगडीत होते. बहुपत्नी पद्धतीतून अनेक तरुण मुलीवर एकच वेळी विधवा होण्याची वेळ येते आणि धर्माने विधवा विवाहावर बंदी घातली होती. परिणामी समाजात स्त्रियांचा दर्जा पूर्णतः खालावला होता. राजाराम मोहन रॉय यांनी या संबंधित सर्वच चालीरीतीवर कडाडून हल्ला चढवला. सतीच्या प्रथेला त्यांचा अतिशय विरोध होता. त्यांनी वेद, उपनिषद आणि भगवतगीतेचा आधार देऊन या प्रथेस धार्मिक मान्यता नाही हे पटवून देण्याचा त्यांनी प्रयत्न केला. ५ डिसेंबर १८१२ ला शासनाने या संबंधी एक कायदा केला त्यानुसार सतीजानेबद्दल कोणास जबरदस्ती करता येणार नाही असा आदेश दिला. शेवटी १८२९ मध्ये लॉर्ड विल्यम बेन्तिंग ने सती संबंधी अंतिम रेगुलेशनपास करून घेतले. राजाराम मोहन रॉय यांच्या कार्याकडे पाहता त्यांना आधुनिक भारतातील पहिले स्त्रीवादी किंवा स्त्री स्वातंत्र्याचे पहिले प्रवक्ते म्हंटल्यास वावगे होणार नाही.

जाती व्यवस्था -

राजाराम मोहन रॉय जाती व्यवस्थेचे कडवे विरोधक होते. जाती व्यवस्था अनैसर्गिक असून टी अनेक सामाजिक अनर्थास कारणीभूत आहे असे ते म्हणत. त्यामुळे माणसामाणसात कृत्रिम तटबंदी होते. माणसाची गतिशीलता नष्ट होते आणि देशवासियांमध्ये ऐक्याची भावना निर्माण होत नाही शिवाय या व्यवस्थेतील श्रेष्ठ व कनिष्ठतेची कल्पना माणसाच्या तसेच समाजाच्या विकासास मारक ठरते. हिव्ह भावना कुलीनवादासारख्या अपप्रवृतीस जन्म देते म्हणून जाती व्यावस्था नष्ट होते हि राष्ट्र विकासाची पहिली अट आहे असे ते मानीत होते. ब्राम्हो समाजा मार्फत हि व्यावस्था कायमचे संपवण्याचा प्रयत्न केला.

शिक्षण -

शिक्षणाच्या क्षेत्रात हि राजाराम मोहन रॉय यांचे कार्य अत्यंत महत्वाचे आहे. कोणती शिक्षण पद्धती देशाच्या हिताच्या दृष्टीने चांगली आहे हे त्यांनी निर्भीडपणे मांडले. भारतात आज जी शिक्षण पद्धती दिसते त्यासाठी त्यांनी खूप संघर्ष केला. संस्कृत भाषा शिकणे व त्याद्वारे आपल्या प्राचीन विद्या अवगत करणे यावरच भार होता. भारतीय तत्वज्ञान, भौतिक प्रगतीच्या बाबतीत पूर्ण निरोपयोगी आहे. इंग्रजी शाळा सगळीकडे असाव्यात व विज्ञान, रसायन व भूगोल या सारख्या विषयाचे ज्ञान भारतीयास मिळाले पाहिजे यासाठी आग्रह धरला. ब्रिटीश शासन देशी लोकांच्या प्रगतीस वचनबद्ध आहे ते तेथे लवकरच पाश्चिमात्य गणित, तत्वज्ञान, रसायन, शरीरशास्त्र इत्यादी उपयुक्त शास्त्रे समाविष्ट असलेली ज्ञानगंगा भारतात सुरु करेल असे त्यांना वाटत होते. १८१५ मध्ये त्यांनी कलकत्ता येथे कॉलेज ची स्थापना केली आणि शासनाने पाश्चिमात्य ज्ञानाची शिक्षण पद्धती भारतात सुरु करावी असे सरकारला सांगितले.

पत्रकारिता आणि वृत्तपत्रीय स्वातंत्र्य -

राजाराम मोहन रॉय हे भारतातील आद्य पत्रकार होते. या व्यवसायासंबंधी जी मार्गदर्शक तत्वे त्यांनी सांगितली आणि जे सिद्धांत मांडले ते स्वातंत्र्य प्राप्तीप्रयेंत आणि नंतर सुद्धा काहीकाळ भारतास मार्गदर्शक ठरले. वृत्तपत्राच्या स्वातंत्र्यावर शासनाने निर्बंध घातलेच तर पत्रकाराने काय करावे यावर यावर हि राजाराम मोहन रॉय उपाय सांगतात ते महत्वाचे आहेत ते पुढीलप्रमाणे

१. सर्वप्रथम त्याने शासनाकडे अश्या निर्बंधाबद्दल विरोध नोंदवावा.

२. पहिल्या मार्गाचा उपयोग न झाल्यास पत्रकाराने प्रत्यक्ष कृतीद्वारे या निर्बंधास विरोध करावा या कृती दोन प्रकारच्या
अ . शासनाशी पूर्ण असहकार करणे
ब. निर्बंध मोडून विचार व लेख प्रकाशित करणे

३. दोन्ही मार्गाचा उपयोग होत नसल्यास शेवटचा मार्ग म्हणजे शासनाच्या धोरणाचा नेषेध म्हणून वृत्तपत्र बंद करून टाकणे हि नीती भारतीयांनी पुढे स्वातंत्र्य संग्रामात वापरली यावरून त्यांचे विचार समजतात.

आर्थिक विचार -

कंपनी राजवटीच्या काळात भारतातील लोकांची पिळवणूक मोठ्या प्रमाणात होत होती हे त्यांनी अभ्यासांती दाखवून दिले. राजाराम मोहन रॉय जमीनदारी पद्धतीचे समर्थक होते. परंतु त्यांनी या जमीनदारी पद्धतीत एक महत्वाचा बदल सुचविला तो म्हणजे जमीनदार लहरीपणावर मर्यादा पडतील आणि शेतकऱ्यांच्या हवी तशी पिळवणूक ते करू शकणार नाहीत तसेच मीठ उत्पादनावर कंपनीत जुलमी एकाधिकार नष्ट करण्यासाठी त्यांनी प्रयत्न केले. नंतरच्या काळात जो आर्थिक शोषण सिद्धांत पुढे आला त्याचा उगम हि राजाराम मोहन रॉय यांच्या विचारात दिसतो. युरोपियन लोक निवृत्त होवून मायदेशी परत जाताना ते या देशातील अफाट संपत्ती घेवून जातात. अशी त्यांची तक्रार होती भारतातील पैसा भारतातच रहावा असे त्यांना वाटत होते त्यामुळे उदयोगधंदे वाढतील व भारतीयांचे राहणीमान आपोआप उंचावेल असे त्यांना वाटत होते.

परीक्षण -

राजाराम मोहन रॉय अनेक अर्थाने आधुनिक भारताचे उद्गाते होते त्यांनी देश बांधवाना धर्मकांड, रूढी, परंपरा या जोखडातून सोडविण्याचा प्रयत्न केला त्यांनी भूतकाळाकडे स्वच्छ बुद्धीवादी दृष्टीने पहिले व त्यावर अनेक चांगले उपाय सांगितले. मानवाचे सामाजिक कल्याण या निकषावरच धार्मिक संस्थांचे मूल्यमापन झाले पाहिजे असा त्यांनी आग्रह धरला.

राजाराम मोहन रॉय यांच्या राजकीय विचारात परस्पर विरोधी प्रवाह आहेत असा एक सामन्यपणे त्यांच्यावर आक्षेप घेतला जातो याचे कारण ते एकीकडे राजकीय, नागरी आणि राष्ट्रीय स्वातंत्र्याचे गोडवे गातात तर दुसरीकडे भारतातील ब्रिटीश सत्ता ईश्वरी वरदान आहे असे म्हणतात. त्यांच्या या दोन भूमिकात विरोधभास दिसतो परंतु तसे नाही तांची स्वातंत्र्याची कल्पना अत्यंत उद्दात आणि परिपूर्ण होती. भारतीय माणूस रुधू, परंपरा आणि अंधश्रधा यांचा गुलाम बनला आहे त्याला यातून मुक्त करणे गरजेचे आहे असे वाटत असे याशिवाय त्यांची चांगल्या शासनाची कल्पना सत्ता विभाजन आणि न्याय संस्थेचे स्वतंत्र्य यावर दिलेला भार वृत्तपत्रीय स्वातंत्र्यास दिलेले महत्व या यांच्या विचारातील व=बाबी खरोखरच चिरंतन स्वरूपाच्य आहेत.

संदर्भ -

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बीड जिल्ह्यातील भूजलपातळीचा भौगोलिक अभ्यास

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सारांश

भूजल म्हणजे जमिनीच्या पातळीखालील असलेले पाणी आहे. ते जमिनीखालील सच्छिद्र मातीत किंवा खडकांच्या भेगात किंवा पातळी खालील एखाद्या पोकळीत असू शकते. अशा साठ्यास जलधारक म्हणतात. यापासून वापरण्यायोग्य पाणी मिळू शकते. पाण्याची ती खोली ज्यावर मातीच्या छिद्रात, भेगात अथवा पोकळीत पाणी पूर्णपणे संपृक्त होते. त्यास भूजलपातळी (वॉटरटेबल) असे म्हणतात. याच पर्जन्यामुळे किंवा इतर कारणांनी जसे प्रवाह इत्यादी पुनर्भरण होते. ते मग जमिनीच्या पातळीवर येऊन वाहते. त्याच्या होणाऱ्या निचऱ्यास, त्याचा एकूण उतार पाहून, त्यास झरा, पाझर, मरुवन किंवा दलदल असे म्हणतात. भूजल हे शेतीसाठी, उद्योगासाठी आणि नागरिकांना पिण्यासाठी वापरण्यात येते. बीड जिल्हा हा आवर्षणग्रस्त क्षेत्रात येत असल्यामुळे जिल्ह्यातील जलसंसाधन स्त्रोत हे पावसावर आवलंबून असतात. बीड जिल्ह्यात पावसाचे प्रमाण बरेच कमी असून तो वेळेवर पडत नाही आणि त्यामुळे जिल्ह्यात अधून-मधून दुष्काळी परिस्थिती निर्मान होते. जिल्ह्यात सर्वसाधारणपणे दरवर्षी जूनच्या दुसऱ्या पंधरवाड्यापासून पावसाला सुरूवात होते व तो सप्टेंबर आखेर राहतो. कधी कधी आक्टोबर महिन्यात सुद्धा पाऊस पडतो. जिल्ह्यात पावसाचे सरासरी प्रमाण ६६६.३६ मि. मी. इतके आहे. त्यामुळे पावसाचा पहरिणाम भूजलपातळीवर होतो.बीड जिल्ह्यात भूजलपातळीमध्ये बऱ्याच प्रमाणात तफावत असल्याचे आपणास अढळुन येते.

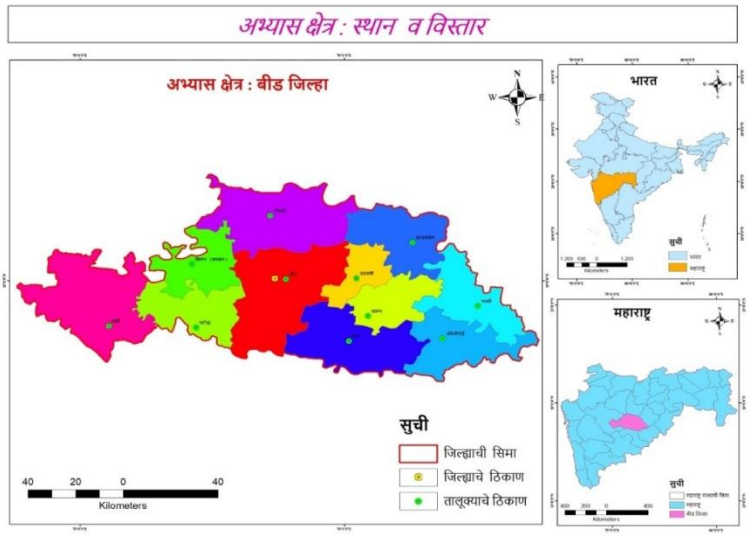
बीज संज्ञा : वॉटरटेबल, पुनर्भरण, पाझर जलसंसाधन, सच्छिद्र, भूजलपातळी

प्रस्तावना :-

पाणी एक अत्यंत महत्वाची नैसर्गिक साधनसंपत्ती आहे. पाणी ही मानव व इतर सजीवांची मूलभूत गरज आहे. देशाच्या सामाजिक व आर्थिक विकासात पाण्याची भूमिका अत्यंत महत्वाची असते. एखांद्या प्रदेशाचे सांस्कृतिक चित्र पाणी बदलू शकते. प्राचीन काळी जलाशय, नद्याजवळ मानवी संस्कृतीचा उगम व विकास झाला. मानवाच्या प्राथमिक गरजेपासून औद्योगिक प्रक्रियेपर्यंत पाण्याची भूमिका महत्वाची असते. मानवी जीवनात अन्न, वस्त्र निवाऱ्या बरोबर पाणी ही देखील अत्यंत महत्वाची गरज आहे. म्हणजे मानव पाण्याशिवाय जगू शकत नाही, व आपला विकास करू शकत नाही. पृथ्वीवर राहणारा प्रत्येक जीव व वनस्पती पाण्यावर अवलंबून आहे. सजीवाची उत्पत्ती पाण्यामधून झाली आहे. पाणी हे रंगहीन असून प्राणी वनस्पती व मानवाच्या सर्व जैविक प्रक्रियेत महत्वाचा घटक आहे, म्हणून पाण्याला जीवन म्हटले आहे. पर्यावरणातील सर्व साधन संपदा या महत्वाच्या आहेत. त्यामध्ये जलसंपदाही एक अतिशय महत्वाची साधन संपदा आहे. पृथ्वीवर जलसंपत्तीचे वितरण असमान स्वरुपात आहे. महासागर व समुद्रातील पाणी ९७.४ टक्के, बर्फाच्छादित १.९८ टक्के, भूमिगत पाणी ०.६० टक्के, नद्या व नाले ०.००१ टक्के, प्राणी, वातावरण, वनस्पती ०.००७ टक्के, मृदा आर्दता ०.००५ टक्के, व तळी व सरोवरे ०.००७ टक्के या प्रमाणे वितरित झाले आहे. म्हणजे केवळ ०.६६ टक्के पाणी सजीव सृष्टीला उपलब्ध आहे.हे यावरून स्पष्ट होते. देशातील वाढत्या लोकसंख्येची पिण्यासाठी, दैनंदिन वापरासाठी, शेती व उद्योगधंद्यासाठी, पाण्याची मागणी सतत वाढत आहे. देशातील ७० टक्के लोक शेती व शेतीशी पुरक व्यवसायावर आवलंबून आहेत. आपली अर्थव्यवस्था कृषीवर अधारित असून येथिल शेती मोसमी पावसावर अवलंबून आहे. तसेच अनिश्चितता व अनियमितता हा मोसमी पर्जन्याचा गुणधर्म आहे. दरवर्षी पर्जन्याचा कालावधी व प्रमाण यामध्ये अनिश्चितता आढळते. या अनिश्चितता प्रमाणामुळेच कधी कोरडा तर कधी ओल्या दुष्काळाला तोंड द्यावे लागते. प्रत्येक व्यक्तीला शुद्ध व पूरेशा प्रमाणात पाणी उपलब्ध होणे आवश्यक आहे. यासाठी पाण्याचा प्रत्येक थेंब महत्वाचा मानून पाण्याचा योग्य वापर व नियोजन महत्वाचे आहे. भूपृष्ठावर निसर्गत: उपलब्ध असणारे व होणारे पाणी सर्वासाठी पुरेसे आहे. पृथ्वीच्या पर्यावरणात उपलब्ध असलेल्या जलाचे मुख्यत: दोन वर्ग पुढीलप्रमाणे करण्यात येतात ते म्हणजे अ) अध:पृष्ठीय जल जे पृथ्वीच्या भूपृष्ठाखाली असलेले पाणी असते. त्यालाच भूजल किंवा भूमिजल असेही म्हणतात. हे पाणी भूस्तराच्या संरचनेमुळे आपनास वेगवेगळ्या स्त्रोतामध्ये आढळुन येते. भूपृष्ठाखाली साठलेले पाणी, डोंगरातील झऱ्याचे पाणी, उथळ व खोल विहिरीतील पाणी, कारंजी इत्यादींचा यामध्ये समावेश होतो. आशा भूजलाचा सबंध सांडपाण्याशी नाही आला तर हे जल बहुधा जंतुविरहीत आसते. ब) पृष्ठीय जल: नद्या, ओढे, ओहळ यातून वाहणारे पाणी; तलाव, सरोवरे, समुद्र व महासागर यांतील पाणी; धरणे तसेच बंधारे यांमुळे कृत्रिमरीत्या साठविलेले पाणी इत्यादी सर्व पृष्ठीय जलात मोडते. भूजल म्हणजे भूर्गभातील पाणी होय. भूजल हे पृष्ठभागाच्या खाली असलेल्या खडकांच्या छिद्रामध्ये आणि क्रॅकमध्ये असलेले पाणी असते. ज्यात पावसाचे प्रमाण बाष्पीभवन होण्याचे प्रमाण, तापमान, जमीनीचा उतार, हावेचा कोरडेपणा, दगडाचे छिद्र आणि अभेद्यता वनस्पतीचे आवरण आणि मातीची पाणी शोषक क्षमता हे घटक भूजलावर परीणाम करतात.

अभ्यास क्षेत्र :-

बीड जिल्हा हा औरंगाबाद विभागाच्या पश्चिमेस मध्यभागी वसलेला आहे. जिल्ह्याचा विस्तार १८^{O} २८' ते १९^{O} २८' उत्तर अक्षांस असून बीड जिल्ह्याचा रेखावृत्तीय विस्तार ७४^{O} ५४' ते ७६^{O} ५७' या पूर्व रेखांश असा आहे. जिल्ह्याच्या उत्तरेस औरंगाबाद व जालना, पूर्वेस परभणी व लातूर हे जिल्हे आहेत. दक्षिणेस उस्मानाबाद तर पश्चिमेस अहमदनगर जिल्हा आहे. गोदावरी या जिल्ह्याची महत्वाची नदी असून ती प्रामुख्याने जिल्ह्याच्या उत्तर सीमेच्या गेवराई व माजलगांव या तालुक्याच्या सरहदीवरुन वाहते. बीड जिल्हा दख्खनच्या काळ्या थरांच्या दगडांच्या प्रदेशात वसलेला आहे. बालाघाटची पर्वतरांग ही जिल्ह्यातील प्रमुख पर्वतरांग



असून ती पश्चिमेकडे अहमदनगर जिल्ह्याच्या सीमेपासून पूर्वेला जिल्ह्याच्या सीमेपर्यंत पसरलेली आहे. जिल्ह्याचे एकूण क्षेत्रफळ १०६९३ चौरस किलोमिटर असून ते महाराष्ट्राच्या ३.४५ टक्के एवढे आहे. या क्षेत्रफळापैकी १५८.३१ चौ.कि.मी. क्षेत्रफळ नागरी भागात असून १०५३४.६९ चौ.कि.मी. क्षेत्रफळ ग्रामीण भागात आहे.

प्रशासकीय सोयीच्या दृष्टीने जिल्ह्याचे सहा महसूली विभाग पाडण्यात आलेले ते बीड, गेवराई, आष्टी, माजलगाव, अंबाजोगाई व परळी येथे असून या विभागाकरीता स्वातंत्र्य जिल्हाधिकारी कार्यालये आहेत. जिल्ह्यात ११ तालुके असून नागरी विभाग वगळता ११ पंचायत समित्या आहेत. या सर्व पंचायत समित्यासाठी बीड येथे जिल्हा परिषद कार्यारत आहे. जनगणना वर्ष २०११ प्रमाणे बीड जिल्ह्याची एकूण लोकसंख्या २५.८५ इतकी आहे.

उद्दिष्टये :-१) बीड जिल्ह्यातील सरासरी भूजलपातळीचा अभ्यास करणे २) बीड जिल्ह्यातील मान्सूनपूर्व व मान्सून पश्चात भूजलपातळीचा अभ्यास करणे

माहितीस्त्रोत व संशोधन पद्धती :-

प्रस्तुत लघुशोध निबंध द्वितीयक स्त्रोतावर माहितीवर आधारीत आहे. या लघुशोध निबंधाकरिता प्रकाशित व अप्रकाशित माहितीचा वापर करण्यात आला आहे. द्वितीयक स्वरूपाची माहीती ही मृदा व भूजल विकास यंत्रणा बीड, जिल्हा सांख्यकिय कार्यालय, कृषि अधिक्षक कार्यालय, गोदावरी पाटबंधारे विकास महामंडळ, कृषि सांख्यिकीय विभाग पाणीपुरवठा व स्वच्छता विभाग बीड येथून घेण्यात आलेली आहे. सदरील लघुशोध निबंधाकरीता वर्णणात्मक व विश्लेषनात्मक संशोधन पद्धतीचा वापर करण्यत आला आहे.

विषय विवेचन व स्पष्टीकरण :-

अ) बीड जिल्हा मान्सूनपूर्व भूजलपातळी :-

बीड जिल्ह्यामध्ये पावसापासून मिळणारे पाणी हाच एक पाण्याचा मुख्य स्त्रोत आहेत. बीड जिल्ह्याच्या सिमेवरुन जाणारी गोदावरी नदी तसेच मांजरा, सिंदफना, सिना, वान या सारख्या लहान मोठ्या नद्या या सर्व नद्या हंगामी स्वरुपाच्या आहेत. त्यामुळे पावसाळ्यानंतर जिल्ह्यात पाण्याची टंचाई निर्माण झालेली आढळून येते. अशावेळेस भुजल पुर्नभरणाचा प्रश्नच येत नाही. तसेच हिवाळ्यात रब्बी लागवड व उन्हाळ्यातील बऱ्याच पिकांना सिंचनाद्वारे पाणी दिले जाते. या पिकांना सिंचनाचा मुख्य स्त्रोत तलाव, कालवे व तसेच इतर स्त्रोताद्वारे पंपसेटच्याद्वारे उपयोग करुन पिकांना पाणी दिले जाते. तसेच भूजलाचा सार्वजनिक आणि व्यक्तिगत कुपनलिकेच्या माध्यमातून सिंचनासाठी उपयोग केला जातो. अशाप्रकारे मान्सुन पश्चात ते मान्सुन पुर्वपर्यंत जलअभावाची स्थिती तसेच भूजलाचा अधिकाधिक उपसा झाल्यामुळे भूजलपातळी हळुहळू खाली जात आहे.

सारणी क्र.१, बीड जिल्हा सरासरी भूजलपातळी मान्सूनपूर्व २०११ ते २०१८

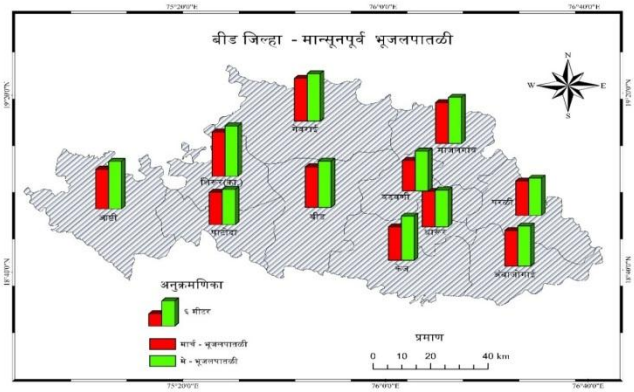
अ.क्र.	तालुका	मान्सुन पुर्व भूजलपातळी		सरासरी खोली (मी.मध्ये)
		मार्च खोली (मी.मध्ये)	मे खोली (मी.मध्ये)	
१.	अंबाजोगाई	८.४	९.५	८.९५
२.	आष्टी	९.३६	११.२२	१०.२९
३.	बीड	९.६१	१०.९७	१०.२९
४.	धारुर	८.४०	८.७२	८.५६

५.	गेवराई	१०.१	११.२१	१०.६५
६.	केज	७.९१	१०.४७	९.१९
७.	माजलगांव	९.७	१०.९५	१०.३२
८.	परळी वै.	८.१२	८.८६	८.४९
९.	पाटोदा	७.६६	८.३	७.९८
१०.	शिरुर का.	१०.४५	११.९१	११.१८
११.	वडवणी	७.२२	९.४५	८.३३
जिल्हा एकूण		८.८१	१०.१४	९.४७

(स्त्रोत - मृदा व भूजल संधारण विभाग, बीड -अप्रकाशित माहिती)

नकाशा क्र.१, बीड जिल्हा मान्सूनपूर्व भूजलपातळ

सारणी क्र.१. व नकाशा क्र.१. नुसार २०११ ते २०१८ या कालावधीमधील मान्सूनपूव भूजलपातळीचा अभ्यास केला आहे. यावरुन असे दिसून येते जिल्ह्यातील पश्चिमेकडील आष्टी, पाटोदा व शिरूर (का.) या तालुक्यांची भूजलपातळी कमी झाली आहे. तर पूर्वेकडील अंबाजोगाई, परळी व उत्तरेकडील माजलगाव, गेवराई या तालुक्यात भूजलपातळी सरासरी इतकी आहे. अभ्यास क्षेत्रातील मान्सून पुर्व भूजलपातळी ९.४७ मी. इतकी आहे.



अभ्यास क्षेत्रामध्ये सर्वात खोल मान्सूनपूर्व भूजलपातळी शिरुर का. या तालुक्यात ११.१८ मी. इतकी खोल आहे. त्या खालोखाल अनुक्रमे गेवराई १०.६५ मी. खोल आष्टी व बीड १०.२९ मी., माजलगांव १०.३२ मी. तर अभ्यास क्षेत्रातील सर्वात कमी मान्सूनपूर्व सरासरी भूजलपातळी पाटोदा ७.९८ मी. खोल आहे. तसेच अनुक्रमे वडवणी ८.३३ मी. परळी वै.८.४९ मी खोल, धारुर ८.५६ मी. खोल, अंबाजोगाई ८.९५ मी. खोल व केज तालुका मान्सूनपूर्व सरासरी भूजलपातळी ९.१९ मी. खोल इतकी आहे. अभ्यास क्षेत्रातील या सर्व तालुक्यामध्ये कुपनलिकाच्या माध्यमातून मोठ्या प्रमाणात सिंचन केले जाते. यामुळे या ठिकाणी भूजलपातळी खालावलेली आढळते.

ब) बीड जिल्हा मान्सुनपश्चात भूजलपातळी :-

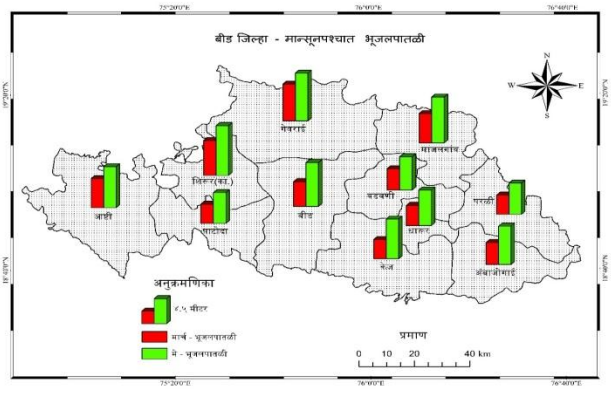
मान्सुनचा पाऊस येण्याबरोबरच अभ्यास क्षेत्रात सर्वत्र भूजलपातळीत वाढ होण्यास सुरुवात होते. त्यामुळे त्याचवेळेस बऱ्याच प्रमाणात भूजलपातळीत झपाट्याने वाढ होते व ती वाढ होऊन जवळजवळ १ मी. पर्यंत ते २ मी. च्या आत ही वाढ होते. त्यामुळे या ऋतुत सर्वत्र पर्जन्याच्या कारणामुळे पिण्याच्या पाण्यास सोडून सिंचनासाठी मोठ्या प्रमाणावर भूजलाचा वापर होत नाही. त्यामुळे मोठ्या प्रमाणात हे जल जमिनीखाली साचून राहते. यामुळे मान्सुनच्या नंतरच्या काळात अभ्यास क्षेत्राच्या प्रत्येक तालुक्यात भूजलस्तर अपेक्षा पेक्षाही वर पहावयास मिळतो.

सारणी क्र.२, बीड जिल्हा मान्सुन पश्चात भूजलपातळी :-

अ.क्र.	तहसील/तालुका	मान्सुनपश्चात भूजलपातळी		सरासरी खोली भूजलपातळी (मी.मध्ये)
		ऑक्टोंबर खोली (मी.मध्ये)	जानेवारी खोली (मी.मध्ये)	
१.	अंबाजोगाई	४.०	७.०	५.५
२.	आष्टी	५.३३	७.५	६.४१
३.	बीड	४.५७	८.०३	६.३
४.	धारुर	३.७०	६.०५	४.८७
५.	गेवराई	६.७७	८.७५	७.७६
६.	केज	३.५	७.२५	५.३७
७.	माजलगांव	५.४६	८.४१	६.९३
८.	परळी वै.	३.६	५.७६	४.६८
९.	पाटोदा	३.५१	५.६१	४.५६
१०.	शिरुर का.	६.४७	९.१३	७.८
११.	वडवणी	३.९७	६.१५	५.०६
जिल्हा एकूण		४.२१	७.२४	५.९३

(स्त्रोत - मृदा व भूजल संधारण विभाग, बीड (अप्रकाशित माहिती)

नकाशा क्र.२, बीड जिल्हा मान्सूनपश्चात भूजलपातळी



सारणी क्र.२ व नकाशा क्र.२ नुसार अभ्यास क्षेत्रात मान्सुनपश्चात भूजलपातळीचा अभ्यास करण्यात आला आहे. यानूसार असे आढळुन येते की, अभ्यास क्षेत्रातील मान्सुनपश्चातची सरासरी भूजलपातळी ५.९३ मी. खोल असून तर अभ्यास क्षेत्रातील मान्सुन पश्चात सरासरी सर्वात जास्त भूजलपातळी शिरुर का.७.८ मी. खोल, गेवराई ७.७० मी. खोल आहे. वरील सारणीचा अभ्यास केल्यास असे आढळून येते की, सर्वात कमी मान्सुनपश्चात सरासरी भूजलपातळी पाटोदा ४.५६मी. इतकी आहे तर दुसऱ्या क्रमांकावर कमी भूजल पातळी परळी वै.४.६८मी., यानंतर अनुक्रमे वडवणी ५.०६ मी. केज ५.३७ मी., अंबाजोगाई ५.५ मी. खोल हे तालुके येतात.

अशाप्रकारे जिल्ह्यात मान्सूनपूव व मान्सुनपश्चात भूजलपातळी आढळून येते. अभ्यास क्षेत्रात दक्षिणेला डोंगर असल्यामुळे या ठिकाणी कठीण कवचाचा खडक असल्यामुळे तसेच तिव्र उतार असल्यामुळे याठिकाणी आपणास भूजलपातळी जास्त खोल असल्याचे दिसते.

निष्कर्ष :-

१. उपलब्ध माहिती व वरील केलेल्या विश्लेषनावरून असे आढळुन येते की, बीड जिल्ह्यामध्ये काही तालुक्यामध्ये पावसाचे प्रमाण कमी आहे. अभ्यास क्षेत्रातील अंबाजोगाई धारुर, वडवणी तसेच बीड या तालुक्याचा दक्षिणेकडील भाग पर्वतीय असल्यामुळे या ठिकाणी कठीण कवचाचा खडक आहे. तसेच याठीकाणी तिव्र उतार असल्यामुळे भूजलपातळी जास्त खोल असल्याचे दिसते. बीड जिल्ह्यातील गेवराई, व माजलगाव शिरूर कासार व आष्टी या तालुक्यामध्ये मान्सूनपश्चात भूजलपातळी खोल आहे. तर शीरुर तालुक्यामध्ये पावसाचे प्रमाणदेखील कमी आढळुन येते.

२. बीड जिल्ह्यात मान्सूनपूर्व भूजलपातळी ९.४७ मी. खोल इतकी असून मान्सूनपश्चात भूजलपातळी ५.९३ मी. खोल इतकी आहे. तसेच बीड जिल्ह्यात मान्सूनपूर्व सर्वात खोल भूजलपातळी ११.१८ मी. शिरूर कासार या तालुक्याची आहे. तर सर्वात वर भूजलपातळी ७.९८ मी. पाटोदा या तालुक्याची आहे. तसेच मान्सूनपश्चात सर्वात खोल भूजलपातळी ७.८ मी. शिरूर कासार याच तालुक्याची आहे. तर सर्वात वर मान्सूनपश्चात भूजलपातळी ४.५६ मी.खेल पाटोदा तालुक्याची आहे.

संदर्भ ग्रंथ :-

१) रामकुमार गुर्जर व बी. सी. जाट (२०१५) : जल संसाधन भूगोल, रावत पब्लिकेशन जयपुर.
२) संसाधन भूगोल, आरूण कुमार यादव (२०१२) विश्वभारती पब्लीकेशन दिल्ली
३) डॉ. सुरेश फुले (२०१६) : महाराष्ट्र भूगोल, शशिकांत पिंपळापुरे, विद्या बुक पब्लिशर्स, औरंगाबाद.
४) संसाधन भूगोल, रामकुमार गुर्जर व बी. सी. जाट (२००७), पंचशील प्रकाशन, जयपूर.
५) महाराष्ट्र सिंचन विकास त्रैमासिक, जुलै-ऑगष्ट-सप्टेंबर (२०१६) : पाठबंधारे संशोधन विकास संचनालय, पुणे.
६) पर्यावरण, सुमंत सुभाषराव सोळंके, ज्ञानदीप अकॅडमी, पूणे
७) भूजल संपत्तीचे व्यवस्थापण, महाराष्ट्र शासन विभाग अहवाल (२०१२)
८) बीड जिल्हा सामाजिक आर्थिक समालोचन (२०१६-१७)
९) पाठबंधारे प्रकल्पाबाबत योजनांची माहिती दर्शविणारी पुस्तिका, जि. बीड.
१०) जलसंवाद मासिक.
११) https://marathivishwakosh.org
१२) http://gsda.maharashtra.gov.in/english/index.php/GWRechargePriorityMap

आसना नदी खोऱ्यातील जलव्यवस्थापन: शाश्वत विकास

भागवत नामदेव पस्तापुरे
इंदिरा गांधी महाविद्यालय सिडको नांदेड

सारांश:(Summary)

मराठवाड्यातील आसना नदीखोरे नांदेड आणि हिंगोली जिल्ह्याच्या दरम्यान पसरलेले असून येथील जलप्रणालीचा शाश्वत विकासासंदर्भात प्रस्तुत शोधनिबंधात अध्ययन करण्यात आले आहे येथील जलप्रणाली त्याच्या आकारमानानुसार स्थाननिश्चिती पर्यावरणातील घटकास संबंधात जलप्रणालीचा अभ्यास महत्त्वाचा ठरतो. यामुळे आसमा नदीखोरे एकूण नऊ उपविभागात विभागले असून त्यामध्ये प्रवाहाची संख्या, प्रवाहाची लांबी, नदी खोरेची लांबी, प्रवाहाची घनता विभाजन गुणोत्तर, जलप्रणालीचा पोत, नदी खोऱ्याच्या उंचीचे प्रमाण आणि प्रवाहाची वारंवारिता इत्यादी घटकाच्या संदर्भाने सूक्ष्म अध्ययन करून याबद्दल सखोल अध्ययन करून आपणास प्रस्तुत जलप्रणाली कशा स्वरुपाची आहे. आसना नदी खोऱ्याचे जलव्यवस्थापन शाश्वत कशा स्वरूपाचे असेल या दृष्टिकोनातून अध्ययन केले गेले आहे.

प्रस्तावना: (Introduction)

भूतलावर जरी मुबलक प्रमाणात पाणी असल तरी आज मानवाला पिण्यासाठी किंवा अन्य वापरासाठी पाण्याची फार मोठी अडचण निर्माण होत आहे विशेषता महाराष्ट्रातील मराठवाडा हा दुष्काळग्रस्त भाग म्हणून ओळखला जातो कारण या भागांमध्ये गेली कित्येक वर्ष पुरेशा प्रमाणामध्ये पाऊस होत नाही- त्यात विशेषत्वाने उस्मानाबाद लातूर बीड अशा जिल्ह्यांमध्ये तर पाण्याचे दुर्भिक्ष आहे. त्याचबरोबर हिंगोली हा भाग सुद्धा बहुतांशी पाण्यापासून वंचित आहे असं म्हटलं तरी वावगं ठरणार नाही. प्रस्तुत शोधनिबंधामध्ये अभ्यासासाठी आसना नदी यांची निवड केलेली आहे- कारण मानव जोपर्यंत शाश्वत विकासाकडे लक्ष केंद्रीत करणार नाही तोपर्यंत मानवाचा खऱ्या अर्थाने विकास होणार नाही. प्रस्तुत अभ्यास क्षेत्रांमध्ये पाण्याचा अतिशय ज्वलंत अशा स्वरूपाचा प्रश्न आहे. मानवाच्या विकासासाठी अन्य घटकांबरोबरच मूलभूत सोयी सुविधा पाण्याला अग्रस्थान दिले जाते. म्हणून म्हणून आसना नदी तील जलव्यवस्थापनाचा शाश्वत विकासावर आपण लक्ष दिले गेले पाहिजे. महाराष्ट्र शासनाने पाण्याच्या बाबतीमध्ये अनेक प्रकारचे नियोजन करून साक्षरता निर्माण करून पाण्याचे व्यवस्थापन करण्याचा आजपर्यंत प्रयत्न केला. स्वातंत्र्यानंतर भारत सरकारनं विविध कायदे व योजना अमलात आणून शाश्वत विकासाकडे घेऊन जाण्याचा प्रयत्न केला आहे. मात्र आज मराठवाड्यात बदल आपल्याला पाहायला मिळत नाही. शासन स्तरावर विविध योजना आल्या त्यामध्ये प्रामुख्याने स्वजलधारा, भारत निर्माण राष्ट्रीय पेयजल योजना, ग्रामीण पाणीपुरवठा, जवाहर विहिरी आणि आता नव्याने जलयुक्त शिवार अशा विविध माध्यमातून सातत्याने प्रयत्न करून जलव्यवस्थापन करण्याचा सातत्याने प्रयत्न केला जातो भविष्यामध्ये याचा फायदा निश्चितपणे हळुवारपणे आपणाला दिसून येईल- मात्र आज मराठवाड्यातील परिस्थिती मात्र अतिशय विदारक आहे असेच म्हणावे लागेल-

उद्दिष्ट: (Objective) जलप्रणालीच्या आकारानुसार स्थान निश्चिती करणे.

स्थान व विस्तार (Location and extension)

प्रस्तुत लघुशोध निबंध आसना नदी गोदावरी नदीची डाव्या तीरावर मिळणारी अत्यंत उपनदी महत्त्वाची आहे. खोऱ्याचा विस्तार महाराष्ट्रातील हिंगोली व नांदेड जिल्ह्यातील औंढा नागनाथ वसमत कळमनुरी हदगाव अर्धापूर नांदेड या तालुक्यांचा समावेश होतो नदीचे उगमस्थान हिंगोली मध्ये शिरड शहापूर येथे असून हि नदि वायव्येकडून आग्नेयीकडे वाहत येते आणि नांदेड तालुक्यात त्याच्या पूर्वेला त्रिकूट नावाचे अत्यंत छोटे गाव आहे या ठिकाणी गोदावरी नदीमध्ये विलीन तसेच या क्षेत्राचा अक्षवृत्तीय विस्तार पाहता 19^0 10' ते 19^0 32' उत्तर रेखावृत्तीय विस्तार 77^0 05' ते 77^0 30' पूर्व रेखावृत्ता दरम्यान असून खोऱ्यामध्ये 2011 च्या जनगणनेनुसार 235 गावे आहेत. तर एकूण लोकसंख्या पाच लाख 74 हजार 850 इतकी आहे. आसना नदीला अतिशय छोट्या नद्या येऊन मिळतात- दख्खनच्या पठाराचा एक भाग असून अजिंठा डोंगररांगा समावेश होतो- याचे अभ्यासाच्या दृष्टिकोनातून एकूण नऊ उप खोऱ्यामध्ये विभाजन केलेले आहे

विषय विवेचन (Subject Discussion)

जलप्रणालीच्या आकारमानानुसार स्थाननिश्चिती पर्यावरण घटकातील संबंध निश्चित करण्यासाठी नदीप्रणालीचा अभ्यास महत्त्वाचा ठरतो या पर्यावरणीय परिस्थितीमुळे नदीत खोऱ्याची रचना प्रभावित होऊन एक कलाकृती तयार होते म्हणून कोणत्याही विकासात्मक योजनेचे योग्य नियोजन आणि व्यवस्थापन करण्यासाठी प्रवाह प्रणाली आणि पर्यावरणाच्या सूक्ष्म स्तरीय मापदंड याचे विश्लेषण करणे अत्यंत आवश्यक आहे. जलप्रणालीतील पृथ्वीच्या पृष्ठभागाचे स्वरूप त्याचे मोजमाप व गणितीय विश्लेषण यांचे मोजमाप केले जाते. जलप्रणालीचे विश्लेषण करताना नदी प्रवाहाचा प्रकार -विस्तार नद्या उपनद्या एकूण संख्या त्याची श्रेणी सरासरी लांबी खोऱ्याचे एकूण क्षेत्र व त्या सर्वांचा एकमेकांशी असलेला संबंध अभ्यासला आहे जलप्रणाली चे विश्लेषण करण्यासाठी भारतीय स्थलनिर्देशक नकाशा किंवा हवाई छायाचित्रे वापरून तयार करता तयार केला आहे त्यानंतर त्यांच्या पद्धतीप्रमाणे प्रथम द्वितीय तृतीय अशा वेगवेगळ्या श्रेणीचे प्रवाह वेगवेगळ्या रंगाने दर्शवलेले आहेत व त्यांची संख्या मोजता येते तसेच प्रत्येक प्रवासी श्रेणीनुसार दहावी या ठिकाणी आपणाला संस्था येथे प्रस्तुत अभ्यासामध्ये आसना नदी खोरे यांचे विश्लेषण केले असता ते पुढीलप्रमाणे केले आहे आसना नदीचे आसना नदी प्रणालीची घटक

1.प्रवाहाची संख्या (Stream order) (Nu)

प्रवाहाचा क्रमांक देऊन त्याचे विश्लेषण दर्शवलेल्या पहिली पायरी आहे आसना नदी प्रवाहचे विश्लेषण प्रथम श्रेणीचे 1713 श्रेणीचे 435 तृतीय श्रेणी 109 चतुर्थ श्रेणी 27 पंचम श्रेणी 18 सहावी श्रेणी-2 अशा पद्धतीने प्रवाह या ठिकाणी दर्शविलेले आहेत- तर एकूण प्रवासी संख्या 2305 एवढी असून आसना नदी पर्यंत प्रथम श्रेणीच्या प्रवाहाची संख्याही द्वितीय श्रेणीच्या प्रवाहाच्या संख्येच्या तिप्पट अधिक असल्याचे आढळते यावरून जलसंधारणाचे आपल्याला स्वरूप लक्षात येते

2. प्रवाहाची लांबी (Stream length) (Lu)

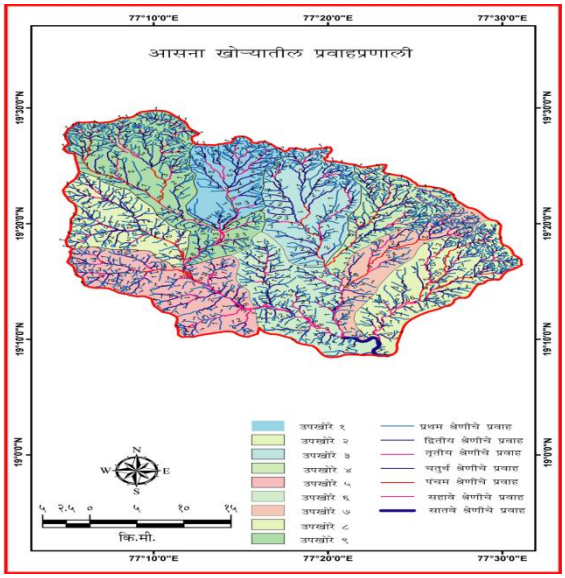
भौगोलिक अभ्यासासाठी विशेषता भौगोलिक वैशिष्टे यांचे विश्लेषण करण्यासाठी जलप्रणाली चे पृथक्करण महत्त्वाचे आहे प्रवाहाची श्रेणी वाढताना प्रवाहाची लांबी कमी होते प्रवाहाच्या लांबी मोजण्यासाठी भौगोलिक माहिती प्रणाली सॉफ्टवेअर वापरून आसना नदी पाण्याच्या एकूण प्रवाहाची लांबी 2056.67 किलोमीटर आहे

3. नदी खोऱ्याची लांबी (Basin length) (Lb)

नदी खोऱ्याची लांबी मुख्य प्रवाहाच्या लांबीच्या बरोबर असते. उगमस्थानापासून ते मुखापर्यंत एकूण सरासरी लांबी 31.1 पन्नास किलोमीटर किती आहे. आणि उपर याची लांबी साधारणता 17.8 ते 8.49 किलो मीटर दरम्यान आहे

4. प्रवाह लांबी गुणोत्तर (Bifurcaion Ratio) (Rb)

प्रवाह लांबीचे गुणोत्तर चे एका श्रेणीतील प्रवाहाची सरासरी लांबी व त्याआधीच्या श्रेणीतील प्रवाहाची सरासरी लांबी या आधारित काढले जाते. हे गुणोत्तर प्रवाह लांबीचे प्रमाण पृष्ठभागावर येणाऱ्या पाण्याचे महत्व पूर्ण परस्पर आहे आसना नदी पाण्याच्या प्रवाहाप्रमाणे चे प्रमाण हे 16.20 किलोमीटर कुठे आहे तर बऱ्याच या प्रवाहाच्या लांबीचे महत्त्वही 4.50 ते 25.47 किलोमीटर दरम्यान आढळते.



5. प्रवाहाची घनता (Drainage Density) (Dd)

प्रवाहाची घनता ही खोऱ्यातील प्रवाहाची एकूण लांबी व सर्व तुपकर यांची एकूण क्षेत्रफळ याद्वारे काढली जाते एकूण नदी खोऱ्याचे क्षेत्र व विभाजित प्रवाहांची लांबी प्रवाह जनतेच्या समान आहे आसना नदी खोऱ्याच्या प्रवाहाची घनता 2.01 किलोमीटर एवढे आढळते तर उप खोरेनिहाय प्रवाहांची घनता 0.80 ते 2.47 चौरस किलोमीटर दरम्यान आढळते वेगवेगळ्या उपक्रमामध्ये वनस्पतीचे आच्छादन आणि अल्प ओलावा असणारी मृदा जेथे आढळते

त्या ठिकाणी प्रवाहाची घनता जास्त आढळते.

6. विभाजन गुणोत्तर (Bifurcaion Ratio) (Rb)

विभाजन गुणोत्तर हे एका श्रेणीतील प्रवाहाची संख्या वरच्या श्रेणीतील एकूण प्रवाहाची संख्या याआधारे काढले जाते असताना नदीचे विभाजन गुणोत्तर 21.9 एवढे असून खूप खो़ऱ्यामध्ये ते 11.30 ते 17.1 24 या दरम्यान आढळते.

7. जलप्रणालीचा पोत (Drainage texture)

एकूण जल प्रणाली ची संख्या आणि नदी परिमिती या आधारे काढले जाते हा पोत भूभाग व संबंधित नैसर्गिक संसाधनांवर अवलंबून असतो उदाहरणार्थ हवामान पर्जन्यवृष्टी वनस्पती खडक आणि मातीचा प्रकार यांच्या अडचणी सहज प्रवाह प्रणालीच्या एकूण संख्येवर अवलंबून असते. आसना नदी खो़ऱ्याचा पोत 1.95 ते 7.46 यादरम्यान आढळतो.

8. नदी खो़ऱ्याच्या उंचीचे प्रमाण (Relief Ratio) (Rl)

नदी खो़ऱ्याच्या सर्वात उंच ठिकाण आणि सर्वात कमी उंचीचे ठिकाण यांमधील फरकाच्या साह्याने काढले जाते. जलशास्त्रीय घटक आणि नदीच्या उंचीच्या प्रमाणात परस्पर संबंध असतो. याद्वारे जलव्यवस्थापनाचा ठिकाणाची निवड करण्यासाठी मदत होते. यावरून असताना नदी खो़ऱ्याच्या उंचीचे प्रमाण 0.00 56 येवढे आढळते.

9. प्रवाहाची वारंवारिता (Stream Frequency) (Fs)

प्रवाहाची वारंवारिता ही एकूण प्रवाहांची संख्या आणि एकूण नदीखो़ऱ्यात चे क्षेत्रफळ याद्वारे काढली जाते असणार नदी आणि तिच्या उपनद्यांच्या प्रवाहाची वारंवारिता ची 2.20 इतकी आढळते.

निष्कर्ष (Conclusions)

प्रवाह प्रणालीची संख्या एकूण प्रवाहाप्रमाणे ची संख्या 2305 एवढी आढळते तर ती श्रेणीनुसार जशी श्रेणी वाढत जाईल तशी ती कमी कमी होत जाते म्हणजेच प्रथम श्रेणी च्या विश्लेषण पाहिले असता 1713 प्रवाह प्रणालीची संख्या वाढते तर सहा वजा श्रेणीमध्ये केवळ दोन इतकीच प्रवाह प्रणालीची संख्या आढळते याचाच अर्थ असा की प्रवाहाची संख्या द्वितीय श्रेणीच्या प्रवाहाच्या संख्येच्या तिप्पट असल्याचे आढळते यावरून जलसंधारणाच्या आपल्याला स्वरूप लक्षात येते

लांबी एकूण प्रवाहाची लांबी दोन हजार 56 दर्शन 67 किलोमीटर इतकी आढळते तर नदी खो़ऱ्याची लांबी 31.1 50 किलोमीटरपर्यंत उगमस्थानापासून ते मुका पर्यंतचे आढळते. प्रवाह गुणोत्तर जर पाहिले असता असे लक्षात येते की प्रवाह प्रमाणात हे 16.1 20 किलोमीटर तर काही ठिकाणी 4.5 50 ते 25 47 किलोमीटर दरम्यान आढळते

वरील घटकाचे अध्ययन करून आपणास आसना नदी खो़ऱ्यातील जलव्यवस्थापनाचा नीट आणि बारकाईने अभ्यास करून या खो़ऱ्याला शाश्वततेकडं आपणाला नेता येण्यास हा शोध प्रबंध मदत करतो

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